VPDES PERMIT PROGRAM FACT SHEET

This document gives pertinent information concerning the VPDES Permit listed below. This permit is being processed as a MINOR, INDUSTRIAL permit. The effluent limitations contained in this permit will maintain the water quality standards of 9 VAC 25-260-00 et seq.

1. **PERMIT NO.:** VA0087106

EXISTING PERMIT EXPIRATION DATE: May 27, 2009

2. **FACILITY NAME AND LOCAL MAILING ADDRESS**

Appalachian Power Company
dba American Electric Power–Leesville Hydroelectric Plant
State Route 754
Hurt, Virginia 24019

FACILITY CONTACT:
NAME: Alan R. Wood
TITLE: Manager, Water & Ecological Resource Services
PHONE: (614) 716-1233

FACILITY LOCATION ADDRESS (IF DIFFERENT)

Leesville Dam, End of State Route 718,
Campbell County

CORP ENVIRONMENTAL CONTACT:
NAME: Jonathan M. Magalski
TITLE: Environmental Specialist
PHONE: (614) 716-2240
EMAIL: jmmagalski@aep.com

LOCAL STAFF CONTACTS:
NAME: David W. Bailey, PE
PHONE: (540) 985-2864
EMAIL: dwbailey@aep.com

NAME: Richard C. Haley
EMAIL: rchaley@aep.com
PHONE: (540) 985-2676

3. **OWNER CONTACT:** (TO RECEIVE PERMIT)
NAME: John M. McManus
TITLE: Vice President, Environmental Services
COMPANY NAME: American Electric Power Service Corp.
ADDRESS: 1 Riverside Plaza, Columbus, OH 43215
PHONE: (614) 716-1268

4. **PERMIT DRAFTED BY:** DEQ, Water Permits, South Central Regional Office

Permit Writer:	Kirk A. Batsel	Dates: 2/23/2009, 3/13/2009, 3/26/2009, 4/1/2009, 4/23/09, 5/27/09
Reviewed By:	Kip D. Foster	Dates: 3/23/2009, 3/31/2009, 4/21/09, 5/27/09

5. **PERMIT CHARACTERIZATION:** (Check as many as appropriate)

( ) Issuance
(X) Reissuance
( ) Revoke & Reissue
( ) Owner Modification
( ) Board Modification
( ) Change of Ownership/Name
Effective Date:
( ) Site Specific WQ Criteria
( ) Variance to WQ Standards
( ) Water Effects Ratio

( ) Municipal
SIC Code(s)
(X) Industrial
SIC Code: 4911

( ) POTW
( ) PVOTW
(X) Private
( ) Federal
( ) State
( ) Publicly-Owned Industrial

( ) Interim Limits in Other Document (attach to fact sheet)
( ) Concept Engineering Report Being Approved with Permit
( ) Possible Interstate Effect

6. **APPLICATION COMPLETE DATE:** December 19, 2008 (VDH comments)

7. **RECEIVING WATERS CLASSIFICATION:** River basin information.

Outfall No(s): 001-006

Receiving Stream:	Roanoke River	7-Day/10-Year Low Flow:	243.86 MGD
River Mile:	140.48	7-Day/10-Year High Flow:	294.49 MGD
Basin:	Roanoke River	1-Day/10-Year Low Flow:	28.97 MGD
Subbasin:	Roanoke River	1-Day/10-Year High Flow:	45.67 MGD
Section:	5	30-Day/5-Year Low Flow:	327.75 MGD
Class:	IV	30-Day/10-Year Low Flow:	283.54 MGD
Special Standard(s):	PWS	Harmonic Mean Flow:	391.35 MGD

8. **FACILITY DESCRIPTION:** Describe the type facility from which the discharges originate.

Existing industrial discharge resulting from the operations of a Hydroelectric Power Plant.

9. **LICENSED WASTEWATER OPERATOR REQUIREMENTS:** (X) No ( ) Yes Class:

10. **RELIABILITY CLASS:** Industrial Facility – NA

11. **SITE INSPECTION DATE:** February 3, 2009 **REPORT DATE:** February 5, 2009

Performed By: Kirk A. Batsel, Permit Engineer BRRO-Lynchburg

SEE ATTACHMENT 1

12. **DISCHARGE(S) LOCATION DESCRIPTION:** Provide **USGS Topo** which indicates the discharge location, significant (large) discharger(s) to the receiving stream, water intakes, and other items of interest.

Name of Topo: Leesville **Quadrant No.:** 077C

SEE ATTACHMENT 2

13. **ATTACH A SCHEMATIC OF THE WASTEWATER TREATMENT SYSTEM(S) [IND. & MUN.]. FOR INDUSTRIAL FACILITIES, ALSO PROVIDE A GENERAL DESCRIPTION OF THE PRODUCTION CYCLE(S) AND ACTIVITIES. FOR MUNICIPAL FACILITIES, PROVIDE A GENERAL DESCRIPTION OF THE TREATMENT PROVIDED.**

SEE ATTACHMENT 3

14. **DISCHARGE DESCRIPTION:** Describe each discharge originating from this facility.

SEE ATTACHMENT 4

15. **COMBINED TOTAL FLOW:**

TOTAL: 1.465 MGD (for public notice)

PROCESS FLOW: 0.102 MGD (IND.)

NONPROCESS FLOW: 1.363 MGD + Storm Water (006) MGD (IND.)

DESIGN FLOW: N/A, Industrial

16. **STATUTORY OR REGULATORY BASIS FOR EFFLUENT LIMITATIONS AND SPECIAL CONDITIONS:** (Check all which are appropriate)

- X State Water Control Law
- X Clean Water Act
- X VPDES Permit Regulation (9 VAC 25-31-10 et seq.)
- X EPA NPDES Regulation (Federal Register)
- ___ EPA Effluent Guidelines [40 CFR 400 – 471 (industrial)]
- ___ EPA Effluent Guidelines [40 CFR 133 (municipal 2^0 treatment)]
- X Water Quality Standards (9 VAC 25-260-00 et seq.)
- ___ Waste load Allocation from a TMDL or River Basin Plan

17. **LIMITATIONS/MONITORING:** Include **all effluent limitations and monitoring requirements** being placed in the permit for each outfall, including any WET limits. If applicable, include any limitations and monitoring requirements being included for sludge and ground water.

There are no applicable limitations and monitoring requirements for sludge.
There are no applicable limitations and monitoring requirements for ground water.

SEE ATTACHMENT 5

18. **SPECIAL CONDITIONS:** Provide **all actual permit special conditions**, including compliance schedules, toxic monitoring, sludge, ground water, storm water and pretreatment.

SEE ATTACHMENT 6

19. **EFFLUENT/SLUDGE/GROUND WATER LIMITATIONS/MONITORING RATIONALE:** For outfalls, attach any analyses completed (**MIX.EXE and WLA.EXE) and STATS printouts** for individual toxic parameters. As a minimum, it will include: waste load allocation (acute, chronic and human health); statistics summary (number of data values, quantification level, expected value, variance, covariance, 97th percentile, and statistical method); input data listing; and, effluent limitations determination. Include **all calculations** used for each outfall's set of effluent limits and incorporate the results of **any water quality model(s)**. Include all calculations/documentation of any antidegradation or anti-backsliding issues in the development of any limitations; complete the review statements below. Provide a rationale for **limited internal waste streams** and indicator pollutants. Attach any additional information used to develop the limitations, including any applicable water quality standards calculations (acute, chronic and human health).

OTHER CONSIDERATIONS IN LIMITATIONS DEVELOPMENT:

WAIVERS/VARIANCES/ALTERNATE LIMITATIONS: Provide justification or refutation rationale for requested **waivers to the permit application (e.g., testing requirements)** or variances/alternatives to required permit conditions/ limitations. This includes, but is not limited to: variances from technology guidelines or water quality standards; WER/translator study consideration; variances from standard permit limits/conditions.

The permittee requested the use of 8-hour composite samples for EPA application Form 2C monitoring verses 24-hour composites. Based on the specific facility discharges, logistics, and the belief that an 8-hour sample is representative of effluent discharge via the station outfalls, this waiver request was approved by DEQ by letter dated November 26, 2008.

SUITABLE DATA: What, if any, effluent data were considered in the establishment of effluent limitations and provide all appropriate information/calculations.

All suitable effluent data were reviewed.

ANTIDEGRADATION REVIEW: Provide all appropriate information/calculations for the antidegradation review.

Tier I: ____ **Tier II:** __X__ **Tier III:** _____

The State Water Control Board's Water Quality Standards regulations include an antidegradation policy (9 VAC 25-260-30). All state surface waters are provided one of three levels of antidegradation protection. For Tier I, existing use protection, existing uses of the water body and the water quality to protect these uses must be maintained. Tier II water bodies have water quality that is better than the water quality standards. Significant lowering of the water quality of Tier II waters is not allowed without an evaluation of the economic and social impacts. Tier III water bodies are exceptional waters and are so designated by regulatory amendment. The antidegradation policy prohibits new or expanded discharges into exceptional waters. The limitations in this permit were developed in accordance with section 303(d)(4) of the Clean Water Act. Therefore, antidegradation restrictions do not apply.

The antidegradation review begins with the Tier determination. The facility discharges directly to the Roanoke River. This receiving stream is listed as Category 5A on the 303(d) list for PCB contamination in fish tissue. (The Virginia Department of Health has issued a "health advisory" for fish consumption in this segment.) However, PCB contamination in fish tissue is not used as a sole basis for classifying a receiving stream as Tier I. Therefore, the Roanoke River, at the point of this facility's discharge, is designated as Tier II and no significant degradation of the existing water quality will be allowed. Antidegradation baselines would be evaluated for all parameters for which data exist, but because there is no proposed expansion for this existing discharge (no increase in pollutant loading), the baselines are not established. If this permit action had included an expansion of the design capacity for this facility, then baselines would have been calculated as not more than 25% of the unused assimilative capacity for the protection of aquatic life (acute and chronic) and not more than 10% for the protection of human health. The unused assimilative capacity is defined as the difference between existing water quality and the criterion for a specific pollutant.

ANTIBACKSLIDING REVIEW: Indicate if antibacksliding applies to this permit and, if so, provide all appropriate information.

There are no backsliding issues to address in this permit (i.e., limits as stringent or more stringent when compared to the previous permit).

SEE ATTACHMENT 7

20. **SPECIAL CONDITIONS RATIONALE:** Provide a rationale **for each of the permit's special conditions**, including compliance schedules, toxic monitoring, sludge, ground water, storm water and pretreatment.

SEE ATTACHMENT 8

21. **SLUDGE DISPOSAL PLAN:** Provide a brief description of the sludge disposal plan (e.g., type sludge, treatment provided and disposal method). Indicate if any of the plan elements are included within the permit.
N/A

22. **MATERIAL STORED:** List the type and quantity of wastes, fluids, or pollutants being stored at this facility. Briefly describe the storage facilities and list, if any, measures taken to prevent the stored material from reaching State waters.

Lubricants, waste oil

23. **RECEIVING WATERS INFORMATION:** Refer to the State Water Control Board's Water Quality Standards [e.g., River Basin Section Tables (9 VAC 25-260 - Part IX) [along with Parts VII and VIII]. Use 9 VAC 25-260-140 C (introduction and numbered paragraph) to address tidal waters where fresh water standards would be applied or transitional waters where the most stringent of fresh or salt water standards would be applied. Attach any memoranda or other information which helped to develop permit conditions (i.e. **flow determination memo, tier determinations,** PReP complaints, special water quality studies, **STORET data** and other biological and/or chemical data, etc.

SEE ATTACHMENT 9

24. **303(d) LISTED SEGMENTS:** Indicate if the facility **discharges directly** to a segment that is listed on the current 303(d) list, if the allocations are specified by an approved TMDL and, if so, provide all appropriate information/calculations. If the facility discharges directly to a stream segment that is on the current 303(d) list, the fact sheet must include a description of how the TMDL requirements are being met.

This facility discharges directly to the Roanoke River. This stream segment receiving the effluent is listed on Part 5A of the current approved 303(d) list for non-attainment of fishable use based on PCB contamination in fish tissue. A TMDL is being prepared for this segment. PCB monitoring is required by this permit in support of TMDL development.

SEE ATTACHMENT 10

25. **CHANGES TO PERMIT:** Use **TABLE A** to record any **changes from the previous permit** and the rationale for those changes. Use **TABLE B** to record any **changes made to the permit during the permit processing period** and the rationale for those changes [i.e., use for comments from the applicant, VDH, EPA, other agencies and/or the public where comments resulted in changes to the permit limitations or any other changes associated with the special conditions or reporting requirements].

SEE ATTACHMENT 11

26. **NPDES INDUSTRIAL PERMIT RATING WORKSHEET:**

TOTAL SCORE: 40 **SEE ATTACHMENT 12**

27. **EPA/VIRGINIA DRAFT PERMIT SUBMISSION CHECKLIST:**

SEE ATTACHMENT 13

28. **DEQ PLANNING COMMENTS RECEIVED ON DRAFT PERMIT:** Document any comments received from DEQ planning.

The discharge is not addressed in any planning document but will be included when the plan is updated.

29. **PUBLIC PARTICIPATION:** Document comments/responses received during the public participation process. If comments/responses provided, especially if they result in changes to the permit, place in the attachment.

VDH COMMENTS RECEIVED ON DRAFT PERMIT: Document any comments received from the Virginia Dept. of Health and noted how resolved.

By letter dated December 17, 2008, the VDH commented that the raw water intake for the Town of Altavista waterworks is located 10 miles downstream from the discharge.

EPA COMMENTS RECEIVED ON DRAFT PERMIT: Document any comments received from the U.S. Environmental Protection Agency and noted how resolved.

No objections to the adequacy of the draft permit were received from EPA..

ADJACENT STATE COMMENTS RECEIVED ON DRAFT PERMIT: Document any comments received from an adjacent state and noted how resolved.

Not Applicable.

OTHER AGENCY COMMENTS RECEIVED ON DRAFT PERMIT: Document any comments received from any other agencies (e.g., VIMS, VMRC, DGIF, etc.) and noted how resolved.

No objections were received as to the adequacy of the draft permit.

OTHER COMMENTS RECEIVED FROM RIPARIAN OWNERS/CITIZENS ON DRAFT PERMIT: Document any comments received from other sources and note how resolved.

The application and draft permit have received public notice in accordance with the VPDES Permit Regulation, and no comments were received.

PUBLIC NOTICE INFORMATION: Comment Period: **Start Date: 4/26/09**
End Date: 5/26/09

Persons may comment in writing or by e-mail to the DEQ on the proposed reissuance of the permit within 30 days from the date of the first notice. Address all comments to the contact person listed below. Written or e-mail comments shall include the name, address, and telephone number of the writer, and shall contain a complete, concise statement of the factual basis for comments. Only those comments received within this period will be considered. The Director of the DEQ may decide to hold a public hearing if public response is significant. Requests for public hearings shall state the reason why a hearing is requested, the nature of the issues proposed to be raised in the public hearing and a brief explanation of how the requestor's interests would be directly and adversely affected by the proposed permit action.

All pertinent information is on file and may be inspected, and arrangements made for copying by contacting Kirk A. Batsel at: Department of Environmental Quality (DEQ), South Central Regional Office, 7705 Timberlake Road, Lynchburg, VA 24502. Telephone: 434-582-6004 E-mail: kabatsel@deq.virginia.gov

Following the comment period, the Board will make a determination regarding the proposed reissuance. This determination will become effective, unless the Director grants a public hearing. Due notice of any public hearing will be given.

30. **ADDITIONAL FACT SHEET COMMENTS/PERTINENT INFORMATION:**

The permittee is current with their annual permit maintenance fees.

31. **SUMMARY OF SPECIFIC ATTACHMENTS LABELED AS:**

Attachment 1 Site Inspection Report/Memorandum
Attachment 2 Discharge Location/Topographic Map
Attachment 3 Schematic/Plans & Specs/Site Map/Water Balance
Attachment 4 Discharge/Outfall Description
Attachment 5 Limitations/Monitoring
Attachment 6 Special Conditions
Attachment 7 Effluent/Sludge/Ground Water Limitations/Monitoring Rationale/Suitable Data/ Stream Modeling/Antidegradation/Antibacksliding
Attachment 8 Special Conditions Rationale
Attachment ___ Material Stored
Attachment 9 Receiving Waters Info./Tier Determination/STORET Data
Attachment 10 303(d) Listed Segments
Attachment 11 TABLE A and TABLE B - Change Sheets
Attachment 12 NPDES Industrial Permit Rating Worksheet
Attachment 13 EPA/Virginia Draft Permit Submission Checklist
Attachment 14 Chronology Sheet

ATTACHMENT 1

SITE INSPECTION REPORT/MEMORANDUM

MEMORANDUM

VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY
SOUTH CENTRAL REGIONAL OFFICE
WATER DIVISION

7705 Timberlake Road Lynchburg, VA 24502

SUBJECT: SITE INSPECTION – AMERICAN ELECTRIC POWER (AEP) - LEESVILLE HYDROELECTRIC POWER PLANT, VPDES PERMIT # VA0087106

TO: Kip Foster, Water Permits Manager - BRRO

FROM: Kirk Batsel, Sr. Environmental Engineer – BRRO - Lynchburg

DATE: February 5, 2009

COPIES: Permit file

A site inspection was held at the subject facility on Tuesday February 3, 2009 in support of the upcoming VPDES permit reissuance. I arrived on-site at approximately 10:45 am and subsequently met with David Bailey, PE (AEP Regional Hydro Generation Environmental Supervisor), Mark Swart (Leesville Station Operator), Bill Carroll (Maintenance Supervisor), and Richard Haley (Environmental Coordinator–Hydro Generation). We initially discussed the permit reissuance process. We also discussed the station outfalls, and the current effluent constitutes for these outfalls. According to AEP staff, no changes have occurred, since the last reissuance, with effluent constitutes for permitted outfalls. Mr. Bailey also inquired about the possibility of reduced monitoring in the upcoming permit. We then toured the facility, outfall source generation areas, and permitted outfalls.

The facility generates power with two 25-megawatt turbine units, which were placed in operation in 1964. Both units are identical in design, materials, and operation. Under average conditions one unit generates electricity for 9 minutes every hour. Unit 2 was operating during the inspection. Utilization of the units are rotated each month. Both units utilize water withdrawn from Leesville Lake to generate electricity. The operating range of Leesville Lake is 13 feet (in elevation) which corresponds with a 1-foot change in elevation in Smith Mountain Lake. Operations and the subsequent discharges (flow through) are managed to equate to project inflow.

Outfall 001 & 002

Once-through non-contact cooling water is supplied directly from the Leesville Lake intake. As the rotor of a hydroelectric generator turns and creates a current in the surrounding coils, heat is generated. Four generator coolers per unit are situated on each side of the generator to absorb this heat and maintain a cooler air temperature within the generator. The generator coolers are radiator-like devices made up of a series of stainless steel tubes.

Thrust bearings are located at the point where the rotor rests on its support structure to allow unencumbered rotation of the shaft. The thrust-bearing cooler is used to lower elevated lubricating oil temperatures caused by friction between the thrust bearing and the rotor. Then to remove heat, the heated oil is passed through a series of cooling coils using service water taken from Leesville Lake.

The above two sources of non-contact cooling water comprise outfall 001 and outfall 002 effluent. EPA application Form 2C indicates the average flow of these constitutes to be, 0.72 MGD, and 0.066 MGD, for generator coolers and thrust bearing coolers, respectively. The combined max flow total for both outfalls is listed as 0.786 MGD, while the average flow is 0.495 MGD for unit 1 and 0.461 for unit 2.

Outfall 001 discharge point. Non-contact cooling water from Unit 1. Not operating on date of inspection.

Outfall 002 discharge point. Non-contact cooling water from Unit 2. Discharging on day of inspection.

Both outfall 001 and 002 are located below grated walkway on backside of dam.

Outfall 003 & 004

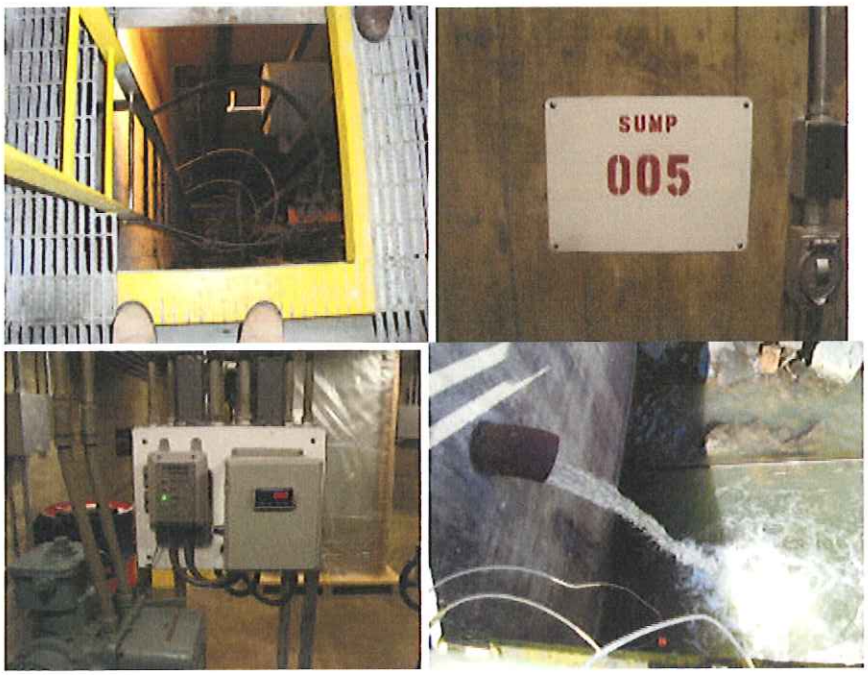
Each turbine shaft contains a packing box seal to prevent the influx of water from the turbine pit to the headcover. Water is supplied to this box to both cool and lubricate the packing material. This water is subsequently discharged from each unit in one of two ways, depending on the unit's mode of operation.

When a unit is condensing electricity, a vacuum is created within the unit by the pressure differential created by the difference in forebay and tailrace elevations. This vacuum causes the packing box seal water to be sucked out of the unit through a small aperture between the packing box and the shaft where it then enters the tailrace. Based on this design, these outfalls cannot be sampled. Water quality is expected to be equivalent to the intake water.

When a unit is generating, the wicket gates that allow water to enter the turbine cavity are open and therefore no vacuum exists. Therefore, the water that is being fed to the packing box must be pumped out of the headcover area to the station sump.

Outfall 005

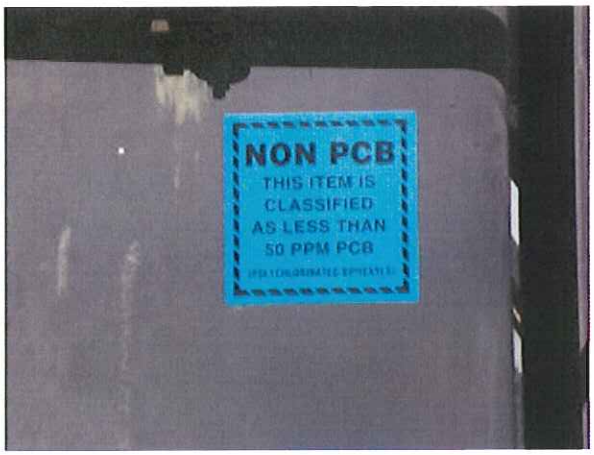
The station sump collects water from leakage, the floor drain system, draft tube dewatering, and the packing box seal as above. The combination of these constitutes form outfall 005 effluent. Dewatering of the sump is accomplished using two-3000 gpm pumps. Since the pump out is off the sump bottom, solids will not accumulate. This outfall discharges via an elbow pipe to the tailrace area.



The station sump is sampled from the valve located below the grate access way (upper left picture). New to the station is the oil alarm system added to the station sump (lower left). The new alarm system alerts the operator should oil be detected within the sump.

Outfall 006

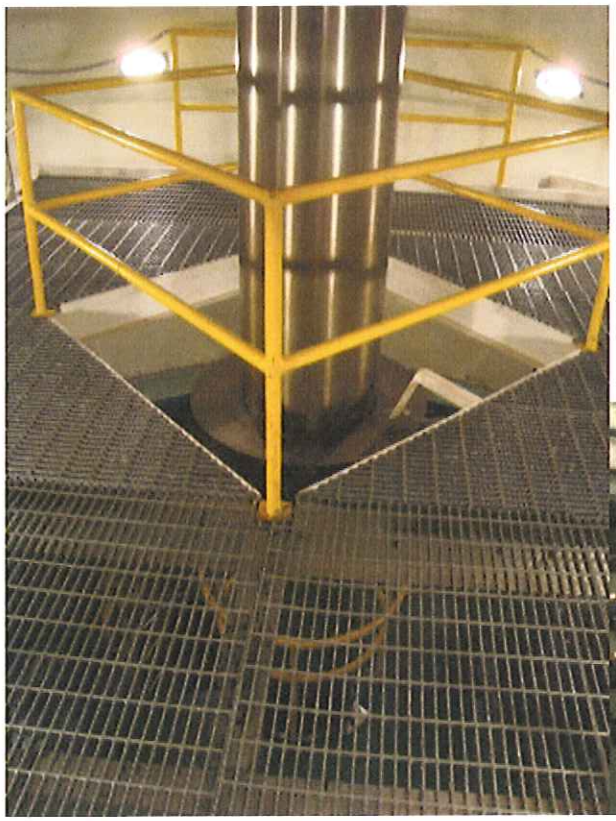
This outfall discharges stormwater from the transformer deck. AEP personnel stated that transformer oil had been changed to remove potential PCBs. Other units that had PCB oil were removed and replaced w/ non PCB oil replacement units. See photographs below of this drainage area.

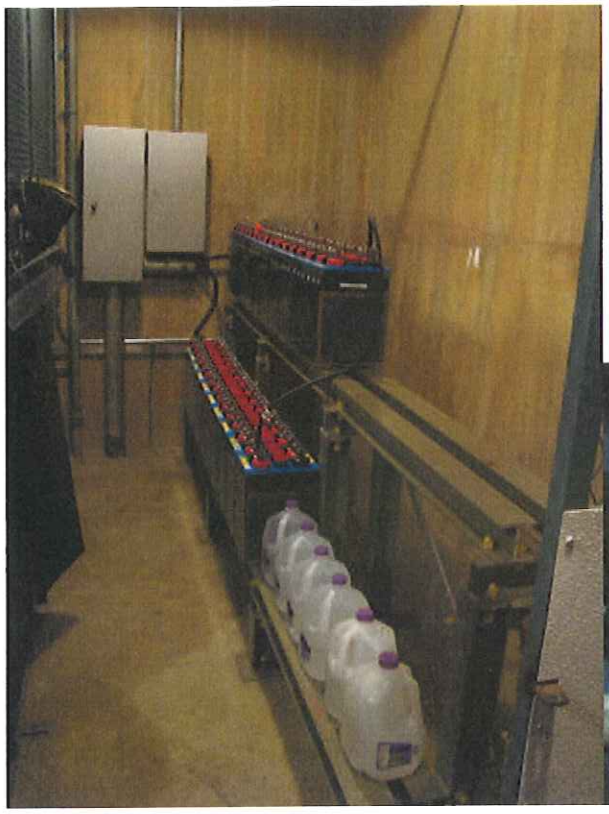


None of the above listed outfalls receive treatment. Please refer to the following photographs for a visual depiction of the subject facility.

Used oil is routinely stored in this tank, until removed by used oil hauler

During periodic maintenance activities, this (red) portable tank is utilized to store oil. This tank is used at both Leesville and SML Hydropower stations. Below left, Turbine shaft for unit #2 which was generating during inspection. Below, main station control panel.



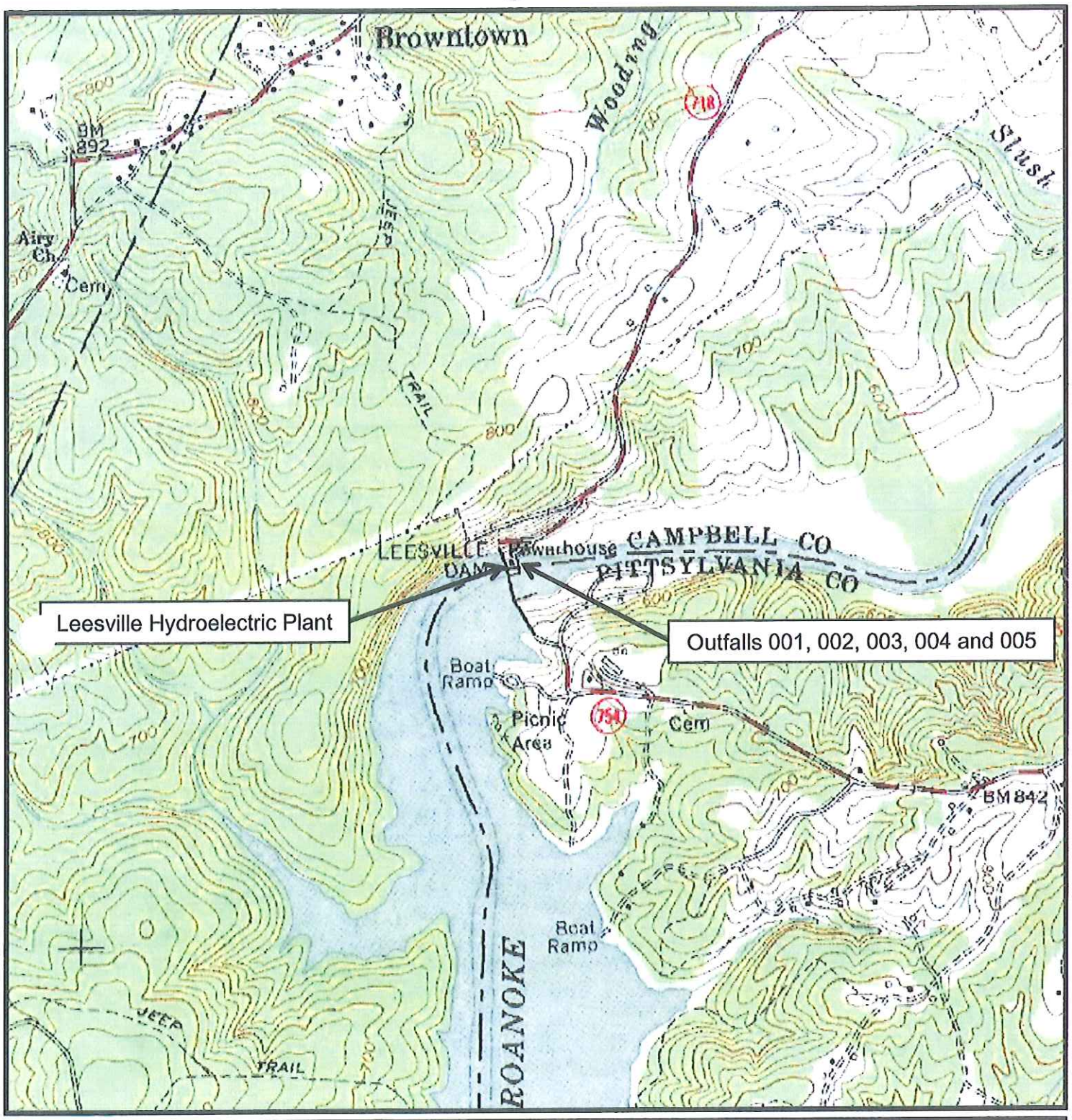


Top left, the station maintains backup battery power in the event power is interrupted from the grid, allowing a station restart. Upper right, top of dam, Leesville lake to right. Left, receiving stream, Roanoke River downstream of Leesville Dam.

ATTACHMENT 2

DISCHARGE LOCATION/TOPOGRAPHIC MAP

Figure 1



N

Leesville, VA Quadrangle
USGS Topographic Map

0 ½ 1mi

11.12.08

Appalachian Power Company
Leesville Hydroelectric Plant
VPDES Permit VA0087106
USGS Site Topographic Map

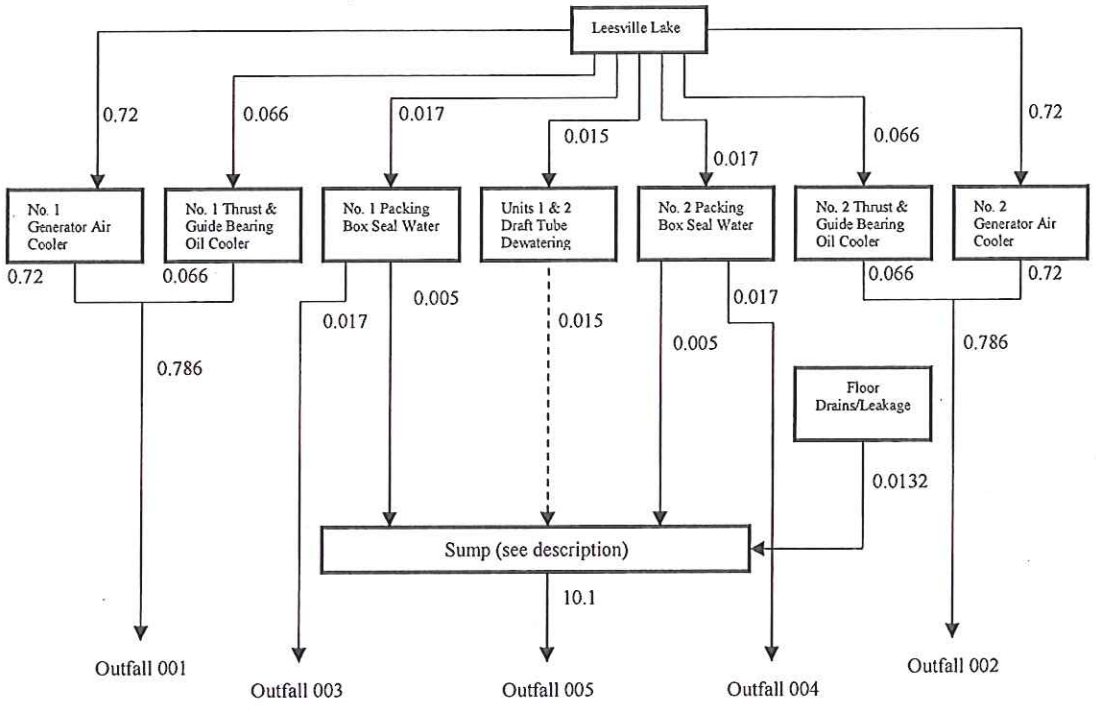
Plant Latitude 37° 05' 36"
Plant Longitude 79° 24' 09"

ATTACHMENT 3

SCHEMATIC/PLANS & SPECS/SITE MAP/ WATER BALANCE

Figure 2

Leesville Hydroelectric Plant
VPDES Flow Diagram



Outfall #	Avg. Flow (MGD)	Max. Flow (MGD)	Receiving Water
001	0.495*	0.786	Roanoke River
002	0.461*	0.786	Roanoke River
003	0.012	0.017	Roanoke River
004	0.012	0.017	Roanoke River
005	0.039*	10.1	Roanoke River

*Long-term measured averages. All other values are calculated.

All Flows MGD
Date: 11/08

ATTACHMENT 4

DISCHARGE/OUTFALL DESCRIPTION

Please print or type in the unshaded areas only.

EPA I.D. NUMBER *(copy from Item 1 of Form 1)*
VAD988204236

Form Approved
OMB No. 2040-0086
Approval expires 5-31-92

Form 2C NPDES

EPA

U.S. ENVIRONMENTAL PROTECTION AGENCY
APPLICATION FOR PERMIT DISCHARGE WASTEWATER
EXISTING MANUFACTURING, COMMERCIAL, MINING, AND SILVICULTURAL OPERATIONS
Consolidated Permits Program

I. OUTFALL LOCATION

For each outfall, list the latitude and longitude of its location to the nearest 15 seconds and the name of the receiving water.

A. OUTFALL NUMBER (list)	B. LATITUDE			C. LONGITITUDE			D. RECEIVING WATER (name)		
	1. DEG	2. MIN	3. SEC	1. DEG	2. MIN	3. SEC			
001	37	05	36	79	24	09	Roanoke River		
002	37	05	36	79	24	09	Roanoke River		
003	37	05	36	79	24	09	Roanoke River		
004	37	05	36	79	24	09	Roanoke River		

II. FLOWS, SOURCES OF POLLUTION, AND TREATMENT TECHNOLOGIES

A. Attach a line drawing showing the water flow through the facility. Indicate sources of intake water, operations contributing wastewater to the effluent, and treatment units labeled to correspond to the more detailed descriptions in Item B. Construct a water balance on the line drawing by showing average flows between intakes, operations, treatment units, and outfalls. If a water balance cannot be determined (e.g., for certain mining activities), provide a pictorial description of the nature and amount of any sources of water and any collection or treatment measures.

B. For each outfall, provide a description of: (1) All operations contributing wastewater to the effluent, including process wastewater, sanitary wastewater, cooling water, and storm water runoff; (2) The average flow contributed by each operation; and (3) The treatment received by the wastewater. Continue on additional sheets if necessary.

1. OUTFALL (list)	2. OPERATION(S) CONTRIBUTING FLOW			3. TREATMENT		
	a. OPERATION (list)	b. AVERAGE FLOW (INCLUDE UNITS)		a. DESCRIPTION	b. LIST CODES FROM TABLE 2C-1	
001	Unit 1 Thrust Bearing Outlet	0.495	MGD	Discharge to surface waters	4-A	
	Sources:					
	Generator coolers	0.72	MGD	See Appendix A, Note 1		
	Thrust bearing coolers	0.066	MGD	See Appendix A, Note 1		
	Max. Flow	0.786	MGD	See Appendix A, Note 1		
002	Unit 2 Thrust Bearing Outlet	0.461	MGD	Discharge to surface waters	4-A	
	Sources:					
	Generator coolers	0.72	MGD	See Appendix A, Note 1		
	Thrust bearing coolers	0.066	MGD	See Appendix A, Note 1		
	Max. Flow	0.786	MGD	See Appendix A, Note 1		
003	Unit 1 Packing Box Seal Water	0.012	MGD	Discharge to surface waters	4-A	
	Max. Flow	0.017	MGD	See Appendix A, Note 1		
004	Unit 2 Packing Box Seal Water	0.012	MGD	Discharge to surface waters	4-A	
	Max. Flow	0.017	MGD	See Appendix A, Note 1		

OFFICIAL USE ONLY (effluent guidelines sub-categories)

Please print or type in the unshaded areas only.

EPA I.D. NUMBER *(copy from Item 1 of Form 1)*
VAD988204236

Form Approved
OMB No. 2040-0086
Approval expires 5-31-92

Form 2C NPDES

EPA

U.S. ENVIRONMENTAL PROTECTION AGENCY
APPLICATION FOR PERMIT DISCHARGE WASTEWATER
EXISTING MANUFACTURING, COMMERCIAL, MINING, AND SILVICULTURAL OPERATIONS
Consolidated Permits Program

I. OUTFALL LOCATION

For each outfall, list the latitude and longitude of its location to the nearest 15 seconds and the name of the receiving water.

A. OUTFALL NUMBER (list)	B. LATITUDE			C. LONGITITUDE			D. RECEIVING WATER (name)		
	1. DEG	2. MIN	3. SEC	1. DEG	2. MIN	3. SEC			
005	37	05	36	79	24	09	Roanoke River		

II. FLOWS, SOURCES OF POLLUTION, AND TREATMENT TECHNOLOGIES

A. Attach a line drawing showing the water flow through the facility. Indicate sources of intake water, operations contributing wastewater to the effluent, and treatment units labeled to correspond to the more detailed descriptions in Item B. Construct a water balance on the line drawing by showing average flows between intakes, operations, treatment units, and outfalls. If a water balance cannot be determined (e.g., for certain mining activities), provide a pictorial description of the nature and amount of any sources of water and any collection or treatment measures.

B. For each outfall, provide a description of: (1) All operations contributing wastewater to the effluent, including process wastewater, sanitary wastewater, cooling water, and storm water runoff; (2) The average flow contributed by each operation; and (3) The treatment received by the wastewater. Continue on additional sheets if necessary.

1. OUTFALL (list)	2. OPERATION(S) CONTRIBUTING FLOW			3. TREATMENT		
	a. OPERATION (list)	b. AVERAGE FLOW (INCLUDE UNITS)		a. DESCRIPTION	b. LIST CODES FROM TABLE 2C-1	
005	Sump	0.042	MGD	Discharge to surface waters	4-A	
	Sources:					
	#1 packing box seal water	0.005	MGD	See Appendix A, Note 1		
	#2 packing box seal water	0.005	MGD	See Appendix A, Note 1		
	Draft tube dewatering	0.015	MGD	See Appendix A, Note 1		
	Floor drains	Negligible		See Appendix A, Note 1		
	Leakage	0.0132	MGD	See Appendix A, Note 1		
	Max. Flow	10.1	MGD	See Appendix A, Note 1		

OFFICIAL USE ONLY (effluent guidelines sub-categories)

TABLE I

NUMBER AND DESCRIPTION OF OUTFALLS

OUTFALL NO.	DISCHARGE LOCATION	DISCHARGE SOURCE (1)	TREATMENT (2)	FLOW (3)
001-005	Station Tailrace	*See Form 2C, page 1a and 1b of 4.	*See Form 2C, page 1a and 1b of 4.	*See Form 2C, page 1a and 1b of 4.
006	Station Tailrace	Stormwater from transformer deck.	None	Storm Dependent

(1) List operations contributing to flow
(2) Give brief description, unit by unit
(3) Give maximum 30-day average flow for industry and design flow for municipal

ATTACHMENT 5

LIMITATIONS/MONITORING

INDUSTRIAL EFFLUENT LIMITATIONS/MONITORING

OUTFALL # 001 & 002
Outfall Description: No. 1 and No. 2 generator air cooler, thrust and guide bearing coolers
SIC CODE: 4911 NAICS CODE: 221111 - Hydroelectric Power Generation

(X) Final Limits ( ) Interim Limits Effective Dates - From: Permit Effective date To: Permit expiration date

EFFLUENT CHARACTERISTICS	DISCHARGE LIMITATIONS					MONITORING REQUIREMENTS	
	MONTHLY AVERAGE		MINIMUM	MAXIMUM		FREQUENCY	SAMPLE TYPE
	mg/l*	lbs/day*	mg/l*	mg/l*	lbs/day*		
Flow (MGD)	NL		NA	NL		1/Year	Estimated
Temperature (^{0}C)	NA		NA	31		1/Year [a]	Immersion Stabilization

* = UNLESS OTHERWISE NOTED NA = NOT APPLICABLE NL = NO LIMIT, MONITORING REQUIREMENT ONLY

1/Year = Between January 1 and December 31, **due January 10 of following year.**

[a] The required effluent temperature sample shall be collected in August or September of each year.

There shall be no discharge of floating solids or visible foam in other than trace amounts.

BASES FOR LIMITATIONS/MONITORING:

PARAMETER	MULTIPLIER OR PRODUCTION	TECHNOLOGY	WATER QUALITY	BEST PROFESSIONAL JUDGMENT
Flow				X
Temperature			X	

INDUSTRIAL EFFLUENT LIMITATIONS/MONITORING

OUTFALL # 003 & 004
Outfall Description: packing box seal water
SIC CODE: 4911 NAICS CODE: 221111 - Hydroelectric Power Generation

(X) Final Limits ( ) Interim Limits Effective Dates - From: Permit Effective date To: Permit expiration date

EFFLUENT CHARACTERISTICS	DISCHARGE LIMITATIONS					MONITORING REQUIREMENTS	
	MONTHLY AVERAGE		MINIMUM	MAXIMUM		FREQUENCY	SAMPLE TYPE
	mg/l*	lbs/day*	mg/l*	mg/l*	lbs/day*		
THERE ARE NO LIMITATIONS OR MONITORING REQUIREMENTS FOR THESE OUTFALLS							

* = UNLESS OTHERWISE NOTED NA = NOT APPLICABLE NL = NO LIMIT, MONITORING REQUIREMENT ONLY

There shall be no discharge of floating solids or visible foam in other than trace amounts.

INDUSTRIAL EFFLUENT LIMITATIONS/MONITORING

OUTFALL # 005
Outfall Description: Power Plant Station Sump
SIC CODE: 4911 NAICS CODE: 221111 - Hydroelectric Power Generation

(X) Final Limits ( ) Interim Limits Effective Dates - From: Permit Effective date To: Permit expiration date

EFFLUENT CHARACTERISTICS	DISCHARGE LIMITATIONS					MONITORING REQUIREMENTS	
	MONTHLY AVERAGE		MINIMUM	MAXIMUM		FREQUENCY	SAMPLE TYPE
	mg/l*	lbs/day*	mg/l*	mg/l*	lbs/day*		
Flow (MGD) [a]	NL		NA	NL		1/3 Months	Estimated
pH (S.U.) [a]	NA		6.0	9.0		1/3 Months	Grab
Temperature (^{0}C) [a]	NA		NA	31		1/3 Months	Immersion Stabilization

* = UNLESS OTHERWISE NOTED NA = NOT APPLICABLE NL = NO LIMIT, MONITORING REQUIREMENT ONLY

1/3 Months = In accordance with the following schedule: 1st quarter (January 1 - March 31, **due April 10**); 2nd quarter (April 1 - June 30, **due July 10**); 3rd quarter (July 1 - September 30, **due October 10**); 4th quarter (October 1 - December 31, **due January 10**).

[a] See Part I.B.4. for additional instructions regarding effluent monitoring frequencies.

There shall be no discharge of floating solids or visible foam in other than trace amounts.

BASES FOR LIMITATIONS/MONITORING:

PARAMETER	MULTIPLIER OR PRODUCTION	TECHNOLOGY	WATER QUALITY	BEST PROFESSIONAL JUDGMENT
Flow, pH				X
Temperature			X	

STORM WATER EFFLUENT LIMITATIONS/MONITORING

OUTFALL # 006
Outfall Description: Storm Water from Transformer Deck
SIC CODE: 4911

1. During the period beginning with the permit's effective date and lasting until the expiration date, the permittee is authorized to discharge from outfall 006 (Storm water)

   THIS OUTFALL SHALL CONTAIN STORM WATER RUNOFF ONLY WHERE NO MONITORING IS REQUIRED. THERE SHALL BE NO DISCHARGE OF PROCESS WASTEWATER FROM THIS OUTFALL.

2. There shall be no discharge of floating solids or visible foam in other than trace amounts.

ATTACHMENT 6

SPECIAL CONDITIONS

VPDES PERMIT PROGRAM
LIST OF SPECIAL CONDITIONS

B. OTHER REQUIREMENTS OR SPECIAL CONDITIONS

1. Total Maximum Daily Load (TMDL) Reopener

This permit shall be modified or, alternatively, revoked and reissued if any approved waste load allocation procedure, pursuant to section 303(d) of the Clean Water Act, imposes waste load allocations, limits or conditions on the facility that are not consistent with the requirements of this permit.

2. Notification Levels

The permittee shall notify the Department as soon as they know or have reason to believe:

a. That any activity has occurred or will occur which would result in the discharge, on a routine or frequent basis, of any toxic pollutant which is not limited in this permit, if that discharge will exceed the highest of the following notification levels:

(1) One hundred micrograms per liter (100 ug/l);
(2) Two hundred micrograms per liter (200 ug/l) for acrolein and acrylonitrile; five hundred micrograms per liter (500 ug/l) for 2,4-dinitrophenol and for 2-methyl-4,6-dinitrophenol; and one milligram per liter (1 mg/l) for antimony;
(3) Five (5) times the maximum concentration value reported for that pollutant in the permit application; or
(4) The level established by the Board.

b. That any activity has occurred or will occur which would result in any discharge, on a non-routine or infrequent basis, of a toxic pollutant which is not limited in this permit, if that discharge will exceed the highest of the following notification levels:

(1) Five hundred micrograms per liter (500 ug/l);
(2) One milligram per liter (1 mg/l) for antimony;
(3) Ten (10) times the maximum concentration value reported for that pollutant in the permit application.
(4) The level established by the Board.

3. Materials Handling and Storage

Any and all product, materials, industrial wastes, and/or other wastes resulting from the purchase, sale, mining, extraction, transport, preparation and/or storage of raw or intermediate materials, final product, by-product or wastes, shall be handled, disposed of and/or stored in such a manner so as not to permit a discharge of such product, materials, industrial wastes and/or other wastes to State waters, except as expressly authorized.

4. Effluent Monitoring Frequencies

If the facility permitted herein is issued a Notice of Violation for any of the parameters listed below, then the following effluent monitoring frequencies shall become effective upon written notice from DEQ and remain in effect until permit expiration date.

Effluent Parameter	Frequency
Flow	1/Month
Temperature	1/Month
pH	1/Month

No other effluent limitations or monitoring requirements are affected by this special condition.

5. Best Management Practices (BMP) Plan

The permittee shall maintain a Best Management Practices (BMP) plan for the control of leaks, spills and contaminated storm water runoff from the site. The permittee shall amend the BMP to include procedures for disposal of debris removed from the trash rack, preventing discharge of solids from screen cleaning and removal of floating grease from the wicket gate leakage underflow baffle. Any change in the facility or operation of the facility which materially increases the potential to discharge significant amounts of pollutants, or if the BMP plan proves to be ineffective in preventing the release of significant amounts of pollutants to surface water, shall be submitted to the DEQ Regional Office.

6. Cooling Water and Boiler Additives

a. If at any time during the life of this permit, the permittee decides to treat any non-contact cooling water unit(s) and/or boiler system(s) with chemical additives [other than those additives currently in use and on file with the DEQ Regional Office], the following requirements shall be satisfied.

At least thirty (30) days prior to implementing any chemical addition to the cooling water and/or boiler equipment, the permittee shall **notify the DEQ Regional Office, in writing**, of the following:

(1) The chemical additives to be employed and their purpose. Provide to the staff for review, a Material Safety Data Sheet (MSDS) for each proposed additive;

(2) Schedule of additive usage; and,

(3) Wastewater treatment and/or retention to be provided during the use of additives.

b. Should the addition of treatment chemicals significantly alter the characteristics of the effluent from the cooling water and/or boiler unit(s) or their usage becomes persistent or continuous, this permit shall be modified or, alternatively, revoked and reissued to include appropriate limitations or conditions.

7. PCB Monitoring

The permittee shall monitor the effluent at Outfalls 005 and 006 for Polychlorinated Biphenyls (PCBs) in accordance with the schedule in 7.f. below. DEQ will use these data for development of a PCB TMDL for the Roanoke River. The permittee shall conduct the sampling and analysis in accordance with the requirements specified below. At a minimum:

a. Monitoring and analysis shall be conducted in accordance with the most current version of EPA Method 1668, congener specific results as specified in the PCB Point Source Monitoring Guidance. It is the responsibility of the permittee to ensure that proper QA/QC protocols are followed during the sample gathering and analytical procedures.

b. The permittee shall collect a minimum of 2 wet weather samples (Outfall 006) and 2 dry weather samples (Outfall 005) according to the PCB Point Source Guidance No. 09-2001, Appendix C (Sample Collection Methods for Effluent and Storm Water) and/or it's amendments. Samples previously collected from these outfalls and analyzed with Method 1668, may be used in satisfying the total number of samples required even if the collection occurred prior to the current permit term.

c. The sampling protocol shall be submitted to DEQ- BRRO Lynchburg Regional Office for review and approval in accordance with the schedule in 7.f. below prior to the first sample collection.

d. The data shall be submitted to DEQ- BRRO Lynchburg Regional Office by the 10th day of the month following receipt of the results according to the PCB Point Source Guidance No. 09-2001, Appendix E (Reporting Requirements for Analytical (PCB) Data Generated Using EPA Method 1668) and/or it's amendments. The submittal shall include the unadjusted and appropriately quantified individual PCB congener analytical results. Additionally, laboratory and field QA/QC documentation and results should be reported. Total PCBs are to be computed as the summation of the reported, quantified congeners.

e. If the results of this monitoring indicate actual or potential exceedance of the water quality criterion or the Waste Load Allocation specified in the approved TMDL, the permittee shall submit to DEQ- BRRO Lynchburg Regional Office for review and approval a Pollutant Minimization Plan (PMP) designed to locate and reduce sources of PCBs in the collection system. A component of the plan may include an evaluation of the PCB congener distribution in the initial source intake water to determine the net contributions of PCBs introduced to the treatment works.

f. PCB monitoring shall proceed in accordance with the following schedule:

1.	Submit PCB sampling protocol	**No later than September 10, 2010**
2.	Complete and Submit PCB monitoring results to the DEQ Blue Ridge Regional Office – Lynchburg.	**No later than June 10, 2011.**
3.	If required, Submit Pollutant Minimization Plan (PMP)	**Within 1 year of notification by DEQ.**

8. Permit Application Requirement

In accordance with Part II. M. of this permit, a new and complete permit application shall be submitted for the reissuance of this permit.

Application Due: No later than November 28, 2013

ATTACHMENT 7

EFFLUENT/SLUDGE/GROUND WATER LIMITATIONS/MONITORING RATIONALE/SUITABLE DATA/STREAM MODELING/ ANTIDEGRADATION/ANTIBACKSLIDING

THE EFFLUENT LIMITATIONS AND MONITORING RATIONALE ARE BASED ON THE FOLLOWING:

Outfall 001 & 002

FLOW – The form 2C maximum daily flow value for each outfall was reported as 0.786 in million gallons per day (MGD). The flow is measured in MGD. The monitoring frequency was previously once per month, however, with the prior reissuance the frequency was reduced to once per quarter. Based on the facility's compliance record, reduced monitoring is continued with this reissuance. This monitoring frequency and sample type should provide adequate data to assess this parameter for these outfalls.

Temp – The current limit of 31°C will be continued in the reissued permit. The monitoring frequency was reduced to once per quarter, during the last permit reissuance. Based on the facility's compliance record, and mixing associated with this discharge, monitoring has been reduced to 1/Year with this reissuance based on facility performance. Temperature samples shall be collected during August of each year. This monitoring frequency and sample type should provide adequate data to assess this parameter for these outfalls.

Outfall 003 and 004

No monitoring is required

Outfall 005

FLOW – The maximum daily flow value for this outfall was reported as 10.1 million gallons per day (MGD). The monitoring frequency was previously once per month, however, with the prior reissuance the frequency was reduced to once per quarter. Based on the facility's compliance record, reduced monitoring is continued with this reissuance. This monitoring frequency and sample type should provide adequate data to assess this parameter for this outfall.

pH – The limits of 6.0 to 9.0 standard units are best professional judgement limits. The monitoring frequency was previously once per month, however, with the prior reissuance the frequency was reduced to once per quarter. Based on the facility's continued compliance record (Tabulated in Attachment 7), reduced monitoring is continued with this reissuance. This limit will ensure compliance with water quality standards. The sample type is grab (required for pH). This monitoring frequency and sample type should provide enough data for proper assessment of compliance with effluent limits.

Temp – The current limit of 31°C will be continued in the reissued permit. Similar to above, the monitoring frequency was previously once per month, however, with the prior reissuance the frequency was reduced to once per quarter. Based on the facility's continued compliance record (Tabulated in Attachment 7), reduced monitoring is continued with this reissuance. This monitoring frequency and sample type should provide enough data for proper assessment of compliance with the effluent limit.

T. PCBs - In accordance with the TMDL Guidance Memo No. 09-2001 PCB monitoring using EPA method 1668, has been added with this reissuance in support of TMDL development.

Outfall 006

Storm dependent outfall from transformer deck. In accordance with the TMDL Guidance Memo No. 09-2001, and the VPDES permit manual, PCB monitoring using EPA method 1668, has been added with this reissuance in support of TMDL development.

SIC Code 4911

Whereas the facility is under SIC 4911, it is not a steam-electric power generating facility and therefore is not subject to steam-electric power generating facility storm water requirements or FEGs.

AEP - Leesville Hydropower Station
Outfall 001 Effluent Flow

Date	Quanity (MGD)	
	Average	Maximum
05-Feb-2001	0.339	0.339
05-Mar-2001	0.3	0.3
06-Apr-2001	0.331	0.331
03-May-2001	0.331	0.331
05-Jun-2001	0.321	0.321
09-Jul-2001	0.331	0.331
09-Aug-2001	0.304	0.304
07-Sep-2001	0.655	0.655
08-Oct-2001	0.612	0.612
05-Nov-2001	0.288	0.288
06-Dec-2001	0.288	0.288
08-Jan-2002	0.288	0.288
04-Feb-2002	0.288	0.288
11-Mar-2002	0.316	0.316
03-Apr-2002	0.309	0.309
09-May-2002	NULL	NULL
06-Jun-2002	0.684	0.684
08-Jul-2002	0.662	0.662
06-Aug-2002	0.626	0.626
06-Sep-2002	0.626	0.626
07-Oct-2002	0.619	0.619
06-Nov-2002	0.627	0.627
09-Dec-2002	0.324	0.324
08-Jan-2003	0.3	0.3
10-Feb-2003	0.316	0.316
07-Mar-2003	0.322	0.322
07-Apr-2003	0.302	0.302
05-May-2003	0.345	0.345
04-Jun-2003	0.345	0.345
03-Jul-2003	0.684	0.684
04-Aug-2003	0.684	0.684
04-Sep-2003	0.65	0.65
06-Oct-2003	0.619	0.619
05-Nov-2003	0.648	0.648
05-Dec-2003	0.305	0.305
09-Jan-2004	0.302	0.302
06-Feb-2004	0.302	0.302
05-Mar-2004	0.309	0.309
06-Apr-2004	0.302	0.302
04-May-2004	0.324	0.324
08-Jun-2004	0.31	0.31
07-Jul-2004	0.648	0.648
04-Aug-2004	0.633	0.633
08-Nov-2004	0.685	0.685

Date	Quanity (MGD)	
	Average	Maximum
04-Feb-2005	0.316	0.316
04-May-2005	0.318	0.318
10-Aug-2005	0.695	**0.695**
08-Nov-2005	0.633	0.633
07-Feb-2006	0.296	0.296
05-May-2006	0.33	0.33
08-Aug-2006	0.64	0.64
08-Nov-2006	0.681	0.681
06-Feb-2007	0.352	0.352
11-May-2007	0.352	0.352
31-Jul-2007	0.633	0.633
10-Oct-2007	0.635	0.635
22-Jan-2008	0.352	0.352
11-Apr-2008	0.339	0.339
21-Jul-2008	0.648	0.648
22-Oct-2008	0.626	0.626

Maximum Flow = 0.695

AEP - Leesville Hydropower Station
Outfall 002 Effluent Flow

Date	Quanity (MGD)	
	Average	Maximum
05-Feb-2001	0.367	0.367
05-Mar-2001	0.33	0.33
06-Apr-2001	0.352	0.352
03-May-2001	0.352	0.352
05-Jun-2001	0.331	0.331
09-Jul-2001	0.345	0.345
09-Aug-2001	0.633	0.633
NULL	NULL	NULL
08-Oct-2001	0.64	0.64
05-Nov-2001	0.666	0.666
06-Dec-2001	0.316	0.316
08-Jan-2002	0.316	0.316
04-Feb-2002	0.325	0.325
11-Mar-2002	0.34	0.34
03-Apr-2002	0.324	0.324
09-May-2002	NULL	NULL
06-Jun-2002	0.374	0.374
08-Jul-2002	0.358	0.358
06-Aug-2002	0.648	0.648
06-Sep-2002	0.604	0.604
07-Oct-2002	0.645	0.645
06-Nov-2002	0.303	0.303
09-Dec-2002	0.331	0.331
08-Jan-2003	0.31	0.31
10-Feb-2003	0.331	0.331
07-Mar-2003	0.339	0.339
07-Apr-2003	0.324	0.324
05-May-2003	0.36	0.36
04-Jun-2003	0.36	0.36
03-Jul-2003	0.331	0.311
04-Aug-2003	0.345	0.345
04-Sep-2003	0.64	0.64
06-Oct-2003	0.633	0.633
05-Nov-2003	0.338	0.338
05-Dec-2003	0.338	0.338
09-Jan-2004	0.336	0.336
06-Feb-2004	0.335	0.335
05-Mar-2004	0.331	0.331
06-Apr-2004	0.334	0.334
04-May-2004	0.352	0.352
08-Jun-2004	0.33	0.33
07-Jul-2004	0.331	0.331
04-Aug-2004	0.662	0.662
08-Nov-2004	0.345	0.345
04-May-2005	0.351	0.351
10-Aug-2005	0.717	**0.717**
08-Nov-2005	0.662	0.662
07-Feb-2006	0.336	0.336
05-May-2006	0.31	0.31
08-Aug-2006	0.52	0.52
08-Nov-2006	0.362	0.362
06-Feb-2007	0.357	0.357
04-May-2007	0.374	0.374
31-Jul-2007	0.655	0.655
10-Oct-2007	0.648	0.648
22-Jan-2008	0.378	0.378
11-Apr-2008	0.357	0.357
21-Jul-2008	0.676	0.676
22-Oct-2008	0.393	0.393

Maximum Flow = 0.717 MGD

AEP - Leesville Hydropower Station
Outfall 005 Effluent Flow

Date	Quanity (MGD)	
	Average	Maximum
05-Feb-2001	0.036	0.036
05-Mar-2001	0.036	0.036
06-Apr-2001	0.072	0.072
03-May-2001	0.072	0.072
05-Jun-2001	0.03	0.03
09-Jul-2001	0.03	0.03
09-Aug-2001	0.03	0.03
NULL	NULL	NULL
08-Oct-2001	0.036	0.036
05-Nov-2001	0.03	0.03
06-Dec-2001	0.036	0.036
08-Jan-2002	0.03	0.03
04-Feb-2002	0.036	0.036
11-Mar-2002	0.042	0.042
03-Apr-2002	0.084	0.084
09-May-2002	0.000006	0.000006
06-Jun-2002	0.03	0.03
08-Jul-2002	0.036	0.036
06-Aug-2002	0.036	0.036
06-Sep-2002	0.036	0.036
07-Oct-2002	0.03	0.03
06-Nov-2002	0.024	0.024
09-Dec-2002	0.03	0.03
06-Jan-2003	0.036	0.036
10-Feb-2003	0.036	0.036
07-Mar-2003	0.042	0.042
07-Apr-2003	0.048	0.048
05-May-2003	0.102	0.102
04-Jun-2003	0.03	0.03
03-Jul-2003	0.06	0.06
04-Aug-2003	0.048	0.048
04-Sep-2003	0.046	0.046
06-Oct-2003	0.048	0.048
05-Nov-2003	0.024	0.024
05-Dec-2003	0.042	0.042
09-Jan-2004	0.036	0.036
06-Feb-2004	0.012	0.012
05-Mar-2004	0.072	0.072
06-Apr-2004	0.036	0.036
04-May-2004	0.042	0.042
08-Jun-2004	0.036	0.036
07-Jul-2004	0.03	0.03
04-Aug-2004	0.036	0.036
08-Nov-2004	0.048	0.048

Date	Quanity (MGD)	
	Average	Maximum
04-Feb-2005	0.072	0.072
04-May-2005	0.048	0.048
10-Aug-2005	0.036	0.036
08-Nov-2005	0.018	0.018
07-Feb-2006	0.036	0.036
05-May-2006	0.036	0.036
08-Aug-2006	0.042	0.042
08-Nov-2006	0.042	0.042
06-Feb-2007	0.054	0.054
04-May-2007	0.042	0.042
31-Jul-2007	0.042	0.042
10-Oct-2007	0.042	0.042
22-Jan-2008	0.042	0.042
11-Apr-2008	0.042	0.042
21-Jul-2008	0.036	0.036
22-Oct-2008	0.054	0.054

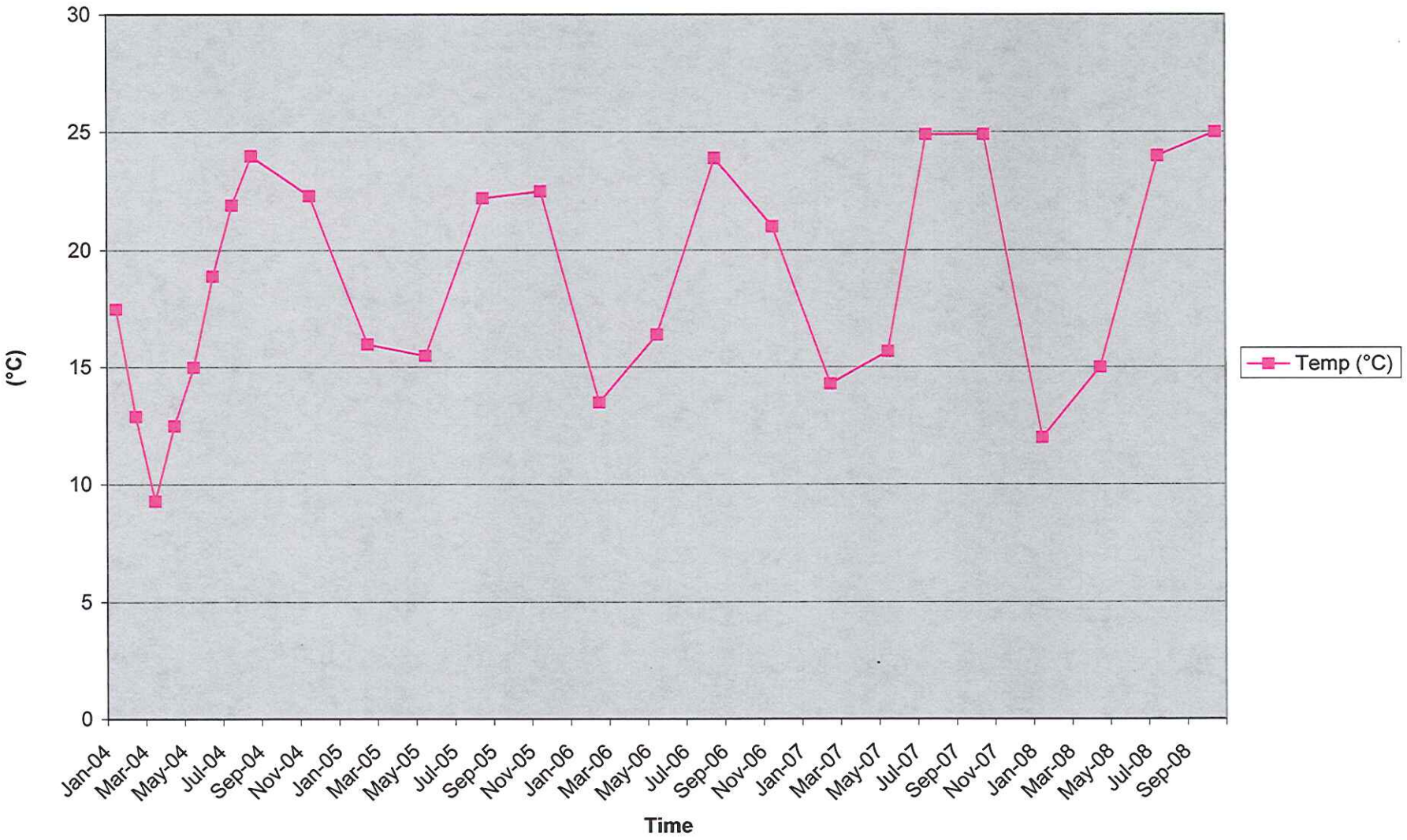
Maximum Flow = 0.102 MGD

AEP - Leesville Hydropower Station
Effluent Temperature Values

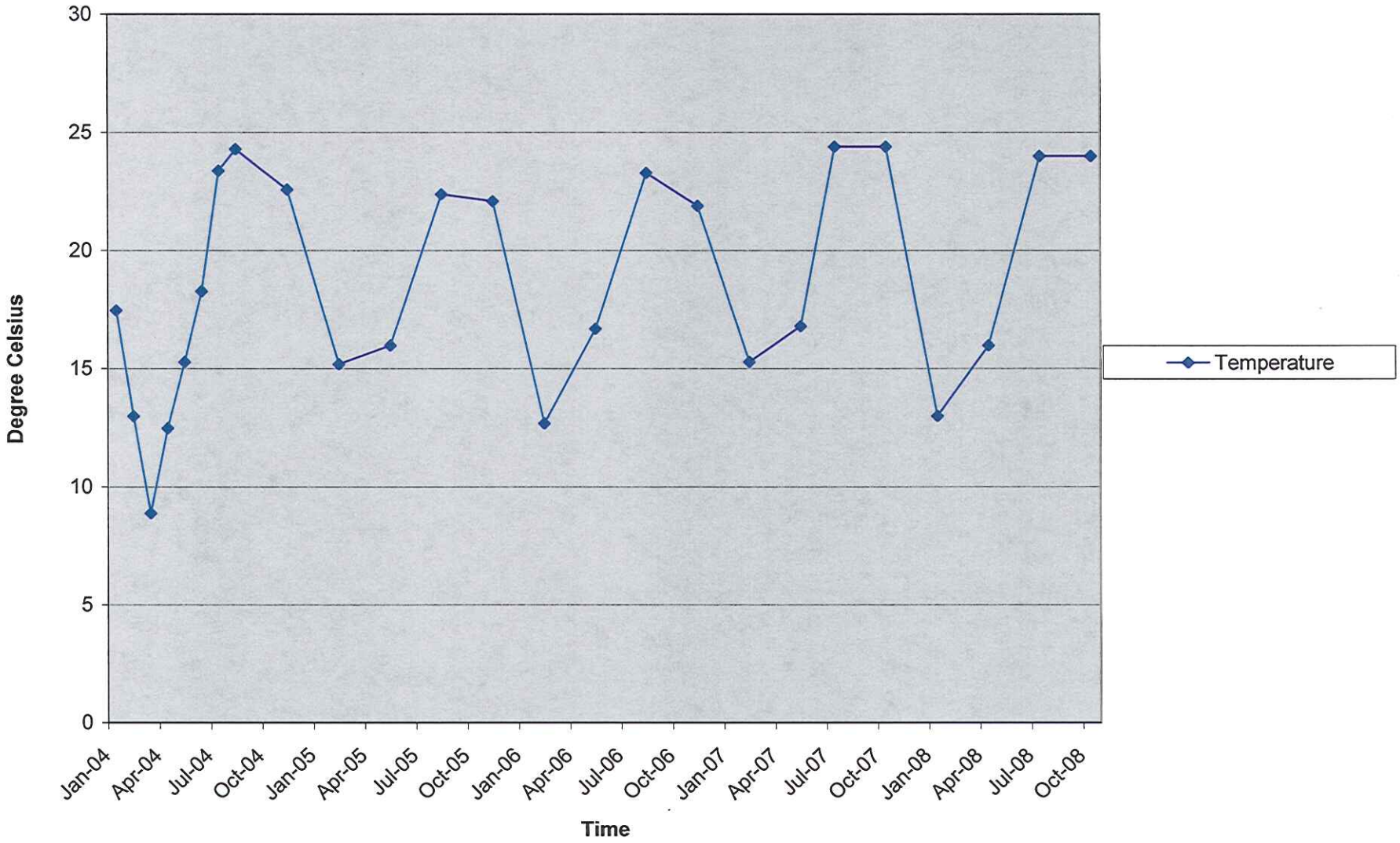
Date	Outfall 001 Temp (°C)	Outfall 002 Temp (°C)	Outfall 005 Temp (°C)
09-Jan-2004	17.5	17.5	14
06-Feb-2004	12.9	13	4.5
05-Mar-2004	9.3	8.9	6.1
06-Apr-2004	12.5	12.5	8.2
04-May-2004	15	15.3	11.3
08-Jun-2004	18.9	18.3	15.3
07-Jul-2004	21.9	23.4	19.9
04-Aug-2004	24	24.3	22.3
08-Nov-2004	22.3	22.6	20.5
04-Feb-2005	16	15.2	9.3
04-May-2005	15.5	16	10.5
10-Aug-2005	22.2	22.4	20.5
08-Nov-2005	22.5	22.1	21.5
07-Feb-2006	13.5	12.7	9.8
05-May-2006	16.4	16.7	12.5
08-Aug-2006	23.9	23.3	21.8
08-Nov-2006	21	21.9	19.7
06-Feb-2007	14.3	15.3	11
11-May-2007	15.7	16.8	13
31-Jul-2007	24.9	**24.4**	21
10-Oct-2007	24.9	**24.4**	**23.4**
22-Jan-2008	12	13	10
11-Apr-2008	15	16	12
21-Jul-2008	24	24	22
22-Oct-2008	**25**	24	22
Maximum =	**25**	**24.4**	**23.4**

Permit limitation = 31.0 °C

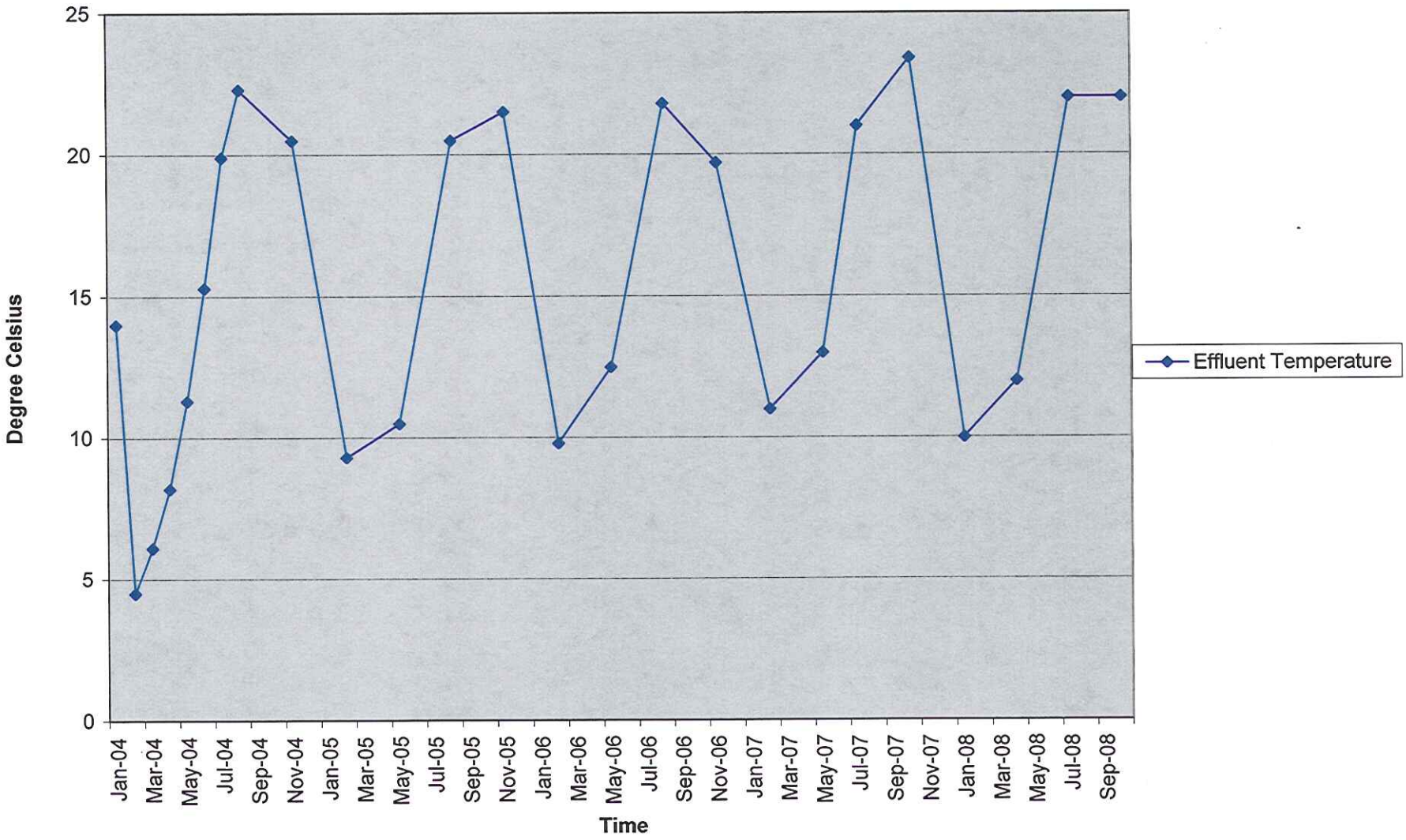
Outfall 001 Temperature



Outfall 002 Effluent Temperature



Outfall 005 Effluent Temperature



AEP - Leesville Hydropower Station
Outfall 005 Effluent pH

Date	Effluent pH	
	Average	Maximum
05-Feb-2001	7.69	7.69
05-Mar-2001	7.39	7.39
06-Apr-2001	7.77	7.77
03-May-2001	6.93	6.93
05-Jun-2001	7.04	7.04
09-Jul-2001	7.08	7.08
09-Aug-2001	7.22	7.22
08-Oct-2001	6.79	6.79
05-Nov-2001	7.65	7.65
06-Dec-2001	7.07	7.07
08-Jan-2002	7.62	7.62
04-Feb-2002	7.06	7.06
11-Mar-2002	6.92	6.92
03-Apr-2002	7.39	7.39
09-May-2002	7.14	7.14
06-Jun-2002	7.2	7.2
08-Jul-2002	7.08	7.08
06-Aug-2002	7.07	7.07
06-Sep-2002	7.92	7.92
07-Oct-2002	7.23	7.23
06-Nov-2002	7.13	7.13
09-Dec-2002	7.2	7.2
06-Jan-2003	7.03	7.03
10-Feb-2003	6.52	6.52
07-Mar-2003	7.54	7.54
07-Apr-2003	7.4	7.4
05-May-2003	7.05	7.05
04-Jun-2003	7.37	7.37
03-Jul-2003	7.46	7.46
04-Aug-2003	7.38	7.38
04-Sep-2003	7.89	7.89
06-Oct-2003	7.89	7.89
05-Nov-2003	7.01	7.01
05-Dec-2003	7.01	7.48
09-Jan-2004	7.86	7.86
06-Feb-2004	7.6	7.6
05-Mar-2004	7.74	7.74
06-Apr-2004	7.64	7.64
04-May-2004	7.62	7.62
08-Jun-2004	8.29	8.29
07-Jul-2004	8.18	8.18
04-Aug-2004	7.34	7.34
08-Nov-2004	7.47	7.47
04-Feb-2005	8.21	8.21
04-May-2005	7.65	7.65

Date	Effluent pH	
	Average	Maximum
10-Aug-2005	7.92	7.92
08-Nov-2005	7.54	7.54
07-Feb-2006	7.96	7.96
05-May-2006	8.38	8.38
08-Aug-2006	7.73	7.73
08-Nov-2006	8.3	8.3
06-Feb-2007	7.99	7.99
04-May-2007	8.1	8.1
31-Jul-2007	8.3	8.3
10-Oct-2007	7.7	7.7
22-Jan-2008	8.3	8.3
11-Apr-2008	7.4	7.4
21-Jul-2008	7.6	7.6
22-Oct-2008	7.6	7.6

ATTACHMENT 8

SPECIAL CONDITIONS RATIONALE

VPDES PERMIT PROGRAM
LIST OF SPECIAL CONDITIONS RATIONALE

Name of Condition:

B. OTHER REQUIREMENTS OR SPECIAL CONDITIONS

1. Total Maximum Daily Load (TMDL)] Reopener

Rationale: Section 303(d) of the Clean Water Act requires that total maximum daily loads (TMDLs) be developed for streams listed as impaired in order that they achieve the applicable water quality standards. This condition allows for the permit to be either modified or, alternatively, revoked and reissued to bring it into compliance with any applicable TMDL approved for the receiving stream. The reopener recognizes that, according to section 402(o)(l) of the Clean Water Act, limits and/or conditions may be either more or less stringent than those contained in this permit. Specifically, they can be relaxed if they are the result of a TMDL, basin plan or other waste load allocation prepared under section 303 of the Act.

2. Notification Levels

Rationale: The VPDES Permit Regulation, 9 VAC 25-31-200 A. and 40 CFR 122.42 (a) require notification of the discharge of certain parameters at or above specific concentrations for all manufacturing, commercial, mining and silvicultural discharges.

3. Materials Handling and Storage

Rationale: The VPDES Permit Regulation, 9 VAC 25-31-50 A., prohibits the discharge of any wastes into State waters unless authorized by permit. The State Water Control Law, Sec. 62.1-44.16 and 17 authorizes the Board to regulate the discharge of industrial or other wastes. Section 301 of the Clean Water Act prohibits the discharge of any pollutant unless it complies with specific sections of the Act.

4. Effluent Monitoring Frequencies

Rationale: The permittee is granted a reduction in monitoring frequency based on a history of permit compliance. To remain eligible for the reduction, the permittee should not have violations that result in enforcement actions. If the permittee fails to maintain the previous level of performance, the baseline monitoring frequencies should be reinstated. The incentive for reduced monitoring is an effort to reduce the cost of environmental compliance and to provide incentives to facilities which demonstrate outstanding performance and consistent compliance with their permits. Facilities which cannot comply with specific effluent parameters or have other related violations will not be eligible for this benefit. This is in conformance with Guidance Memorandum No. 98-2005 - Reduced Monitoring and EPA's proposed "Interim Guidance For Performance-Based Reduction of NPDES Permit Monitoring Frequencies" (EPA 833-B-96-001) published in April 1996.

5. Best Management Practices (BMP) Plan

Rationale: The VPDES Permit Regulation, 9 VAC 25-31-220 K., and 40 CFR 122.44 (k) require the use of best management practices (BMPs) where applicable to control or abate the discharge of pollutants when numeric effluent limits are infeasible or the BMPs are necessary to achieve effluent limits or to carry out the purpose or intent of the Clean Water Act and State Water Control Law.

6. Cooling Water and Boiler Additives

Rationale: Chemical additives may be toxic or otherwise violate the receiving stream water quality standards. Upon notification, the regional office can determine if this new additive will warrant a modification to the permit.

7. PCB Monitoring

Rationale: This special condition requires the permittee to monitor and report PCB concentrations in dry weather and wet weather effluent samples consistent with 9 VAC 25-260-280. The results from this monitoring shall be used to implement the PCB TMDL that is being developed for the Roanoke River.

8. Permit Application Requirement

Rationale: The VPDES Permit Regulation, 9 VAC 25-31-100 D. and 40 CFR 122.21 (d)(1) require a new application at least 180 days prior to expiration of the existing permit. In addition, the VPDES Permit Regulation, 9 VAC 25-31-100 E.1. and 40 CFR 122.21 (e)(1) note that a permit shall not be issued before receiving a complete application.

Part II CONDITIONS APPLICABLE TO ALL VPDES PERMITS

The VPDES Permit Regulation, 9 VAC 25-31-190, and 40 CFR 122, require all VPDES permits to contain or specifically cite the conditions listed.

ATTACHMENT 9

RECEIVING WATERS INFO./
TIER DETERMINATION/STORET DATA

Planning Statement for VPDES Permit Application Processing DEQ-SCRO

VPDES	OwnerName	Facility	County
VA0087106	American Electric Power	Leesville Hydroelectric Plant	Pittsylvania

Outfall #: 001

River Basin: Roanoke River

Receiving Stream: Roanoke River

Subbasin: Roanoke River

Watershed Code: L19R

River Mile: 140.48

	MGD		MGD
1Q10	28.97	**HF 1Q10**	45.67
7Q10	243.86	**HF7Q10**	294.49
30Q5	327.75	**HF30Q10**	320.49
30Q10	283.54	**HM**	391.35

Modeling Notes

None Requested

WQMP Name No Plan

Statement

TMDL ID VAC-L19R-01/ 00287

Impairment Cause PCBs in Fish Tissue

TMDL Due Date 2010

Completed TMDL Information

TMDL Approval Dates

Amanda B. Gray

Amanda B. Gray, Water Planning Engineer

10·21·08

Date

MEMORANDUM

DEPARTMENT OF ENVIRONMENTAL QUALITY
South Central Regional Office - Water Planning
7705 Timberlake Road Lynchburg, VA 24502 434/582-5120

SUBJECT: Flow Frequency Determination
AEP – Leesville Hydroelectric Plant - #VA0087106

TO: Kirk Batsel

FROM: Amanda Gray

DATE: October 21, 2008

COPIES: File

This memo supersedes my November 14, 2003 memo concerning the subject VPDES permit.

The AEP Leesville Hydroelectric Plant discharges via numerous outfalls located at the base of the Leesville Lake dam on the Roanoke River near Leesville, VA. Stream flow frequencies are required at the dam site for use by the permit writer in developing effluent limitations for the VPDES permit.

The USGS operates a continuous record gage on the Roanoke River at Altavista, VA (#02060500) since 1930. Flows at the gage have been regulated by Leesville Dam since 1965. The flow frequencies for the gage have been determined using the regulated period of record. The gage is located approximately 9.5 miles downstream of the Leesville Lake dam, in Altavista, VA.

The flow contributed by the drainage area between the gage and the dam was calculated using the gage on Goose Creek near Huddleston, VA (#02059500). Goose Creek enters Roanoke River between the gage and the dam. The flow contributed by the 284 mi^2 drainage area of Goose Creek and the intervening watershed were subtracted from the Altavista gage flows.

There are two known water withdrawals located between the gage and the outfall; Burlington Industries – Hurt, and the Altavista WTP. The maximum withdrawal by each facility occurring during the high flow and low flow periods must be subtracted from the flow frequencies for the discharge point. The high flow months are January through May. The maximum 'high flow' withdrawal by Burlington Industries occurred during May 1985 and equaled 18.655 million gallons (0.93 cfs) and the Altavista WTP maximum withdrawal occurred during March 2000 and equaled 56.3 million gallons (2.91 cfs). During the low flow period, the maximum Burlington Industries withdrawal occurred in August 2002 and equaled 87.232 million gallons (4.5 cfs) and the maximum Altavista WTP withdrawal occurred in October 2004 and

equaled 59.9 million gallons (2.98 cfs). This analysis does not address any other withdrawals, discharges, or springs lying between the dam and the Altavista gage.

Roanoke River at Altavista, VA (#02060500):

Drainage Area = 1789mi^2

1Q10 = 78 cfs	High Flow 1Q10 = 141 cfs
7Q10 = 415 cfs	High Flow 7Q10 = 538 cfs
30Q5 = 566 cfs	High Flow 30Q10 = 603 cfs
30Q10 = 487 cfs	Harmonic Mean = 744 cfs

Goose Creek near Huddleston, VA (#02059500):

Drainage Area = 188 mi^2

1Q10 = 17 cfs	High Flow 1Q10 = 44 cfs
7Q10 = 20 cfs	High Flow 7Q10 = 52 cfs
30Q5 = 34 cfs	High Flow 30Q10 = 66 cfs
30Q10 = 27 cfs	Harmonic Mean = 87 cfs

Using the Goose Creek gage, through drainage area proportions, I have determined the flow contributed by the watershed between the Altavista gage and the Leesville dam;

Roanoke River Watershed between the gage and the dam:

Drainage Area = 284 mi^2

1Q10 = 25.7 cfs	High Flow 1Q10 = 66.5 cfs
7Q10 = 30.2 cfs	High Flow 7Q10 = 78.5 cfs
30Q5 = 51.4 cfs	High Flow 30Q10 = 99.7 cfs
30Q10 = 40.8 cfs	Harmonic Mean = 131.0 cfs

Subtracting the flow contributed by the intervening watershed and the withdrawals by Burlington Industries and the Altavista WTP;

Roanoke River at Leesville Lake dam:

Drainage Area = 1505 mi^2

1Q10 = 78 – 25.7 – 4.5 – 2.98 = 44.82 cfs (28.97 MGD)

7Q10 = 415 – 30.2 – 4.5 – 2.98 = 377.32 cfs (243.86 MGD)

30Q5 = 566 – 51.4 – 4.5 – 2.98 = 507.12 cfs (327.75 MGD)

30Q10 = 487 – 40.8 – 4.5 – 2.98 = 438.72 cfs (283.54 MGD)

High Flow 1Q10 = 141 – 66.5 – 0.93 – 2.91 = 70.66 cfs (45.67 MGD)

High Flow 7Q10 = 538 – 78.5 – 0.93 – 2.91 = 455.66 cfs (294.49 MGD)

High Flow 30Q10 = 603 – 99.7 – 4.5 – 2.91 = 495.89 cfs (320.49 MGD)

Harmonic Mean = 744 – 131 – 4.5 – 2.98 = 605.52 cfs (391.35 MGD)

The high flow months are January through May. The current discussions related to the Leesville/Smith Mountain Lake project and flow schedules may impact this analysis. It is unclear at this time how the revised flow schedules could be included in this analysis and should be considered once the flow schedules are finalized. If you have any questions concerning this analysis, please let me know.

ATTACHMENT 10

303(d) LISTED SEGMENTS

2006 DEQ-SCRO Water Quality Assessment Impaired Waters Factsheets

Roanoke (Staunton) River *IR CATEGORY:* **5A**

WATERBODY SIZE: **81.52 Miles**

Roanoke (Staunton) River mainstem from Leesville Dam downstream to the Kerr Reservoir.

ASSOCIATED ADB ASSESSMENT UNITS:

VAC-L19R_ROA01A00	VAC-L30R_ROA03A00	VAC-L36R_ROA01A98
VAC-L19R_ROA03A00	VAC-L30R_ROA02A00	VAC-L38R_ROA02A98
VAC-L19R_ROA04A00	VAC-L30R_ROA06A00	VAC-L40R_ROA03A98
VAC-L30R_ROA04A00	VAC-L30R_ROA01A00	VAC-L40R_ROA04A98

IMPAIRED AREA ID: **VAC-L19R-01** *TMDL PROJECT ID:* **00287**

This segment does not support the **Fish Consumption** use. This segment is impaired for **PCBs**

SOURCES: **Source Unknown**

TMDL DUE DATE: **2006** *1999 CONSENT DECREE?:* **Y**

Station IDs:
4AROA134.35 (2002 Probabilistic Monitoring)
4AROA129.55 (Ambient, 2002 FT/Sediment)
4AROA125.59 (1998 FT/Sediment & 1999 Sediment)
1998 PCBs 6 Species
4AROA117.09 (1998 & 1999 FT/Sediment)
1998 PCBs 4 Species
1999 PCBs 3 Species
1999 Heptachlor epoxide 2 Species
4AROA108.09 (Ambient & 1998 FT/Sediment & 2006 Raonoke Bacteria TMDL)
1998 PCBs 6 Species
1998 Chlordane 1 Species & Heptachlor epoxide 2 Species
4AROA097.46 (Ambient, Low Flow Special Study)
Trend Analysis Performed - No Statistically significant trends were detected
4AROA097.07 (1998, 1999 & 2002 FT/Sediment)
1998 - PCBs 8 Species
2002 - PCBs 9 Species
4AROA096.65 (1999 Sediment Only)
Observed Effects
1999 - PCBs, Chlordane, Total DDT & DDE
4AROA096.62 (2000 FT Only)
2000 - PCBs 2 Species
4AROA067.91 (Ambient & 1999 FT)
1999 - PCBs 3 Species
4AROA059.12 (Ambient, FT/Sediment)
1998 - PCBs 4 Species
2002 - PCBs 8 Species, Hg 2 Species & Pb detected in 1 Species
Trend Analysis Performed - No statistically significant trends were detected
VDH fish consumption Advisory for PCBs.
PCB Source Search has revealed one major ancestral source of contamination.

ATTACHMENT 11

TABLE A AND TABLE B - CHANGE SHEETS

TABLE A

VPDES PERMIT PROGRAM
Permit Processing Change Sheet

1. Effluent Limits and Monitoring Schedule: (List any changes FROM PREVIOUS PERMIT and give a brief rationale for the changes).

OUTFALL NUMBER	PARAMETER	MONITORING CHANGED FROM / TO	EFFLUENT LIMITS CHANGED FROM / TO	RATIONALE	DATE & INITIAL
001 & 002	Temperature & Flow	1/3 months		1/Year based on facility compliance, mixing and anticipated receiving stream effects. Temperature monitoring is to be conducted during August of each year.	4/1/09 KAB
005 & 006	Total PCBs	None / 2 analysis per listed outfall		In accordance with the TMDL Guidance Memo No. 09-2001, PCB monitoring using EPA method 1668, has been added with this reissuance. The results from this monitoring shall be used to implement the PCB TMDL that is being developed for the Roanoke River.	3/13/09 KAB

OTHER CHANGES FROM:	CHANGED TO:	DATE & INITIAL
None	Added the VPDES reissuance application submittal special condition. This is a standard condition now added to assist in defining the reissuance application submittal deadline.	KAB 2/23/09

TABLE B

VPDES PERMIT PROGRAM
Permit Processing Change Sheet

1. Effluent Limits and Monitoring Schedule: (List any changes MADE DURING PERMIT PROCESS and give a brief rationale for the changes).

OUTFALL NUMBER	PARAMETER CHANGED	MONITORING LIMITS CHANGED FROM / TO	EFFLUENT LIMITS CHANGED FROM / TO	RATIONALE	DATE & INITIAL
001 & 002		Added the month of September as an additional month to monitor.		AEP commented that narrowing the monitoring window to only August could result in a situation where the station may be out of service during August. To reduce this likelihood, the month of September was added as an alternative month in which to sample.	KAB 4/23/09
005 & 006	PCBs	Changed submittal deadline of PCB sampling protocol from September 10, 2009 to September 10, 2010.		AEP submitted additional comments 5/22/09 requesting a one-year extension on PCB scheduled items. Upon consideration and discussion w/ AEP staff, the protocol submittal deadline was extended one year.	KAB 5/27/09

OTHER CHANGES FROM:	CHANGED TO:	DATE & INITIAL
Facility Name, Owner Name, Titles, etc.	Several changes were made per the AEP comments received.	KAB 4/23/09

ATTACHMENT 12

NPDES INDUSTRIAL PERMIT RATING WORKSHEET

NPDES Permit Rating Work Sheet

___ Regular Addition
___ Discretionary Addition
___ Score change, but no status change
___ Deletion

NPDES NO: |_V_|_A_|_0_|_0_|_8_|_7_|_1_|_0_|_6_|

Facility Name:

| A | p | p | a | l | a | c | h | i | a | n | | P | o | w | e | r | - | L | e | e | s | v | i | l | l | e | | H | y | d | r | o | |

City: |_H_|_u_|_r_|_t_|___|___|___|___|___|___|___|___|___|___|___|___|___|___|___|___|___|___|

Receiving Water: |_R_|_o_|_a_|_n_|_o_|_k_|_e_|___|_R_|_i_|_v_|_e_|_r_|___|___|___|___|___|___|___|___|___|___|___|___|___|___|___|___|

Reach Number: |___|___|___|___|___|___|___|___|___|___|___|

Is this facility a steam electric power plant (SIC=4911) with one or more of the following characteristics?

1. Power output 500 MW or greater (not using a cooling pond/lake)
2. A nuclear power plant
3. Cooling water discharge greater than 25% of the receiving stream's 7Q10 flow rate

___ YES: score is 600 (stop here) _X_ NO (continue)

Is this permit for a municipal separate storm sewer serving a population greater than 100,000?

___ YES; score is 700 (stop here)
_X_ NO (continue)

FACTOR 1: Toxic Pollutant Potential

PCS SIC Code: |___|___|___|___| Primary SIC Code: |_4_|_9_|_1_|_1_|

Other SIC Codes: |___|___|___|___| |___|___|___|___| |___|___|___|___| |___|___|___|___|

Industrial Subcategory Code: |___|___|___| (Code 000 if no subcategory)

Determine the Toxicity potential from Appendix A. Be sure to use the TOTAL toxicity potential column and check one

Toxicity Group	Code	Points	Toxicity Group	Code	Points	Toxicity Group	Code	Points
___ No process waste streams	0	0	___ 3.	3	15	___ 7.	7	35
___ 1.	1	5	___ 4.	4	20	___ 8.	8	40
___ 2.	2	10	___ 5.	5	25	___ 9.	9	45
			_X_ 6.	6	30	___ 10.	10	50

Code Number Checked: |_0_|_6_|

Total Points Factor 1: |_3_|_0_|

FACTOR 2: Flow/Stream Flow Volume *(Complete Either Section A or Section B; check only one)*

Section A--Wastewater Flow Only Considered

Wastewater Type (See Instructions)			Code	Points
Type I:	Flow < 5 MGD	___	11	0
	Flow 5 to 10 MGD	___	12	10
	Flow > 10 to 50 MGD	___	13	20
	Flow > 50 MGD	___	14	30
Type II:	Flow < 1 MGD	___	21	10
	Flow 1 to 5 MGD	___	22	20
	Flow > 5 to 10 MGD	___	23	30
	Flow > 10 MGD	___	24	50
Type III:	Flow < 1 MGD	___	31	0
	Flow 1 to 5 MGD	___	32	10
	Flow > 5 to 10 MGD	___	33	20
	Flow > 10 MGD	___	34	30

Section B--Wastewater and Stream Flow Considered

Wastewater Type (See Instructions)	Percent of Instream Wastewater Concentration at Receiving Stream Low Flow		Code	Points
Type I/III:	< 10%	_X_	41	0
	> 10% to < 50%	___	42	10
	> 50%	___	43	20
Type II:	<10%	___	51	0
	> 10% to < 50%	___	52	20
	> 50%	___	53	30

Code Checked from Section A or B: |_4_|_1_|

Total Points Factor 2: |___|_0_|

NPDES No.: |_V_|_A_|_0_|_0_|_8_|_7_|_1_|_0_|_6_|

FACTOR 3: Conventional Pollutants

(only when limited by the permit)

A. Oxygen Demanding Pollutant: (check one) ___ BOD ___ COD ___ Other:_____

Permit Limits: (check one)		Code	Points
___	< 100 lbs/day	1	0
___	100 to 1000 lbs/day	2	5
___	>1000 to 3000 lbs/day	3	15
___	>3000 lbs/day	4	20

NA

Code Checked: |___|

Points Scored: |___|___|

B. Total Suspended Solids (TSS)

Permit Limits: (check one)		Code	Points
___	< 100 lbs/day	1	0
___	100 to 1000 lbs/day	2	5
___	>1000 to 5000 lbs/day	3	15
___	>5000 lbs/day	4	20

NA

Code Checked: |___|

Points Scored: |___|___|

C. Nitrogen Pollutant: (check one) ___ Ammonia ___ Other: _____

Permit Limits: (check one)		Code	Points
___	< 300 lbs/day	1	0
___	300 to 1000 lbs/day	2	5
___	>1000 to 3000 lbs/day	3	15
___	>3000 lbs/day	4	20

NA

Code Checked: |___|

Points Scored: |___|___|

Total Points Factor 3: |___|_0_|

FACTOR 4: Public Health Impact

Is there a public drinking water supply located within 50 miles downstream of the effluent discharge (this includes any body of water to which the receiving water is a tributary)? A public drinking water supply may include infiltration galleries, or other methods of conveyance that ultimately get water from the above referenced supply.

_X_ YES (if yes, check toxicity potential number below)
___ NO (if no, go to Factor 5)

Determine the human health toxicity potential from Appendix A. Use the same SIC code and subcategory reference as in Factor 1. (Be sure to use the human health toxicity group column -- check one below)

Toxicity Group	Code	Points	Toxicity Group	Code	Points	Toxicity Group	Code	Points
___ No process waste streams	0	0	___ 3.	3	0	___ 7.	7	15
___ 1.	1	0	___ 4.	4	0	___ 8.	8	20
___ 2.	2	0	___ 5.	5	5	___ 9.	9	25
			_X_ 6.	6	10	___ 10.	10	30

Code Number Checked: |_0_|_6_|

Total Points Factor 4: |_1_|_0_|

FACTOR 5: Water Quality Factors

A. Is (or will) one or more of the effluent discharge limits based on water quality factors of the receiving stream (rather than technology-based federal effluent guidelines, or technology-based state effluent guidelines), or has a wasteload allocation been assigned to the discharge?

		Code	Points
___	Yes	1	10
_X_	No	2	0

B. Is the receiving water in compliance with applicable water quality standards for pollutants that are water quality limited in the permit?

		Code	Points
_X_	Yes	1	0
___	No	2	5

C. Does the effluent discharged from this facility exhibit the reasonable potential to violate water quality standards due to whole effluent toxicity?

		Code	Points
___	Yes	1	10
_X_	No	2	0

Code Number Checked: A |_2_| B |_1_| C |_2_|

Points Factor 5: A |___|_0_| + B |_0_| + C |___|_0_| = |___|_0_| TOTAL

FACTOR 6: Proximity to Near Coastal Waters

A. Base Score: Enter flow code here (from Factor 2): |_4_|_1_| *Enter the multiplication factor that corresponds to the flow code:* |_0_|_00_|

Check appropriate facility HPRI Code (from PCS):

	HPRI #	*Code*	*HPRI Score*
_X_	1	1	20
___	2	2	0
___	3	3	30
___	4	4	0
___	5	5	20

Flow Code	Multiplication Factor
11, 31, or 41	0.00
12, 32, or 42	0.05
13, 33, or 43	0.10
14 or 34	0.15
21 or 51	0.10
22 or 52	0.30
23 or 53	0.60
24	1.00

HPRI code checked: |_1_|

Base Score: (HPRI Score) ___20_____ x (Multiplication Factor) ____0_____ = ____0_____ (TOTAL POINTS)

B. Additional Points--NEP Program
For a facility that has an HPRI code of 3, does the facility discharge to one of the estuaries enrolled in the National Estuary Protection (NEP) program (see instructions) or the Chesapeake Bay?

		Code	Points
___	Yes	1	10
_X_	No	2	0

C. Additional Points--Great Lakes Area of Concern
for a facility that has an HPRI code of 5, does the facility discharge any of the pollutants of concern into one of the Great Lakes' 31 areas of concern (see instructions)

		Code	Points
___	Yes	1	10
_X_	No	2	0

Code Number Checked: A |_1_| B |_2_| C |_2_|

Points Factor 6: A |___|_0_| + B |___|_0_| + C |___|_0_| = |_____0_____| TOTAL

NPDES Permit Rating Work Sheet

NPDES No: |_V_|_A_|_0_|_0_|_8_|_7_|_1_|_0_|_6_|

SCORE SUMMARY

Factor	Description	Total Points
1	Toxic Pollutant Potential	30
2	Flow/Stream flow Volume	0
3	Conventional Pollutants	0
4	Public Health Impacts	10
5	Water Quality Factors	0
6	Proximity to Near Coastal Waters	0
	TOTAL (Factors 1-6)	40

S1. Is the total score equal to or greater than 80? ___ Yes (Facility is a major) _X_ No

S2. If the answer to the above question is no, would you like this facility to be discretionary major?

_X_ No

___ Yes (add 500 points to the above score and provide reason below:

Reason:

_____

_____

_____

_____

_____

NEW SCORE: 40

OLD SCORE: 40

Kirk A. Batsel
Permit Reviewer's Name

(434) 582 - 6204
Phone Number

February 6, 2009
Date

ATTACHMENT 13

EPA/VIRGINIA DRAFT PERMIT SUBMISSION CHECKLIST

Part I. Virginia Draft Permit Submission Checklist

In accordance with the MOA established between the Commonwealth of Virginia and the United States Environmental Protection Agency, Region III, the Commonwealth submits the following draft National Pollutant Discharge Elimination System (NPDES) permit for Agency review and concurrence.

Facility Name:	AEP – Leesville Hydroelectric Power Station
NPDES Permit Number:	VA0087106
Permit Writer Name:	Kirk A. Batsel
Date:	February 23, 2009

Major [ ] **Minor** [X] **Industrial** [X] **Municipal** [ ]

I.A. Draft Permit Package Submittal Includes:	Yes	No	N/A
1. Permit Application?	X		
2. Complete Draft Permit (for renewal or first time permit – entire permit, including boilerplate information)?	X		
3. Copy of Public Notice?		X	
4. Complete Fact Sheet?	X		
5. A Priority Pollutant Screening to determine parameters of concern?		X	
6. A Reasonable Potential analysis showing calculated WQBELs?			X
7. Dissolved Oxygen calculations?			X
8. Whole Effluent Toxicity Test summary and analysis?			X
9. Permit Rating Sheet for new or modified industrial facilities?	X		

I.B. Permit/Facility Characteristics	Yes	No	N/A
1. Is this a new, or currently unpermitted facility?		X	
2. Are all permissible outfalls (including combined sewer overflow points, non-process water and storm water) from the facility properly identified and authorized in the permit?	X		
3. Does the fact sheet **or** permit contain a description of the wastewater treatment process?	X		
4. Does the review of PCS/DMR data for at least the last 3 years indicate significant non-compliance with the existing permit?		X	

I.B. Permit/Facility Characteristics – cont.	Yes	No	N/A
5. Has there been any change in streamflow characteristics since the last permit was developed?		X	
6. Does the permit allow the discharge of new or increased loadings of any pollutants?		X	
7. Does the fact sheet **or** permit provide a description of the receiving water body(s) to which the facility discharges, including information on low/critical flow conditions and designated/existing uses?	X		
8. Does the facility discharge to a 303(d) listed water?	X		
8.a. Has a TMDL been developed and approved by EPA for the impaired water?		X	
8.b. Does the record indicate that the TMDL development is on the State priority list and will most likely be developed within the life of the permit?	X		
8.c. Does the facility discharge a pollutant of concern identified in the TMDL or 303(d) listed water?		X	
9. Have any limits been removed, or are any limits less stringent, than those in the current permit?		X	
10. Does the permit authorize discharges of storm water?	X		
11. Has the facility substantially enlarged or altered its operation or substantially increased its flow or production?		X	
12. Are there any production-based, technology-based effluent limits in the permit?		X	
13. Do any water quality-based effluent limit calculations differ from the State's standard policies or procedures?		X	
14. Are any WQBELs based on an interpretation of narrative criteria?		X	
15. Does the permit incorporate any variances or other exceptions to the State's standards or regulations?		X	
16. Does the permit contain a compliance schedule for any limit or condition?		X	
17. Does the permit include appropriate Pretreatment Program requirements?			X
18. Is there a potential impact to endangered/threatened species or their habitat by the facility's discharge(s)?		X	
19. Have impacts from the discharge(s) at downstream potable water supplies been evaluated?	X		
20. Is there any indication that there is significant public interest in the permit action proposed for this facility?		X	
21. Has previous permit, application, and fact sheet been examined?	X		

Part II NPDES Draft Permit Checklist
Region III NPDES Permit Quality Review Checklist – For Non-Municipals
(To be completed and included in the record for all non-POTWs)

II.A. Permit Cover Page/Administration	Yes	No	N/A
1. Does the fact sheet **or** permit describe the physical location of the facility, including latitude and longitude (not necessarily on permit cover page)?	X		
2. Does the permit contain specific authorization-to-discharge information (from where to where, by whom)?	X		

II.B. Effluent Limits – General Elements	Yes	No	N/A
1. Does the fact sheet describe the basis of final limits in the permit (e.g., that a comparison of technology and water quality-based limits was performed, and the most stringent limit selected)?	X		
2. Does the fact sheet discuss whether "antibacksliding" provisions were met for any limits that are less stringent than those in the previous NPDES permit?			X

II.C. Technology-Based Effluent Limits (Effluent Guidelines & BPJ)	Yes	No	N/A
1. Is the facility subject to a national effluent limitations guideline (ELG)?		X	
1.a. If yes, does the record adequately document the categorization process, including an evaluation of whether the facility is a new source or an existing source?			X
1.b. If no, does the record indicate that a technology-based analysis based on best Professional Judgement (BPJ) was used for all pollutants of concern discharged at treatable concentrations?			X
2. For all limits developed based on BPJ, does the record indicate that the limits are consistent with the criteria established at 40 CFR 125.3(d)?	X		
3. Does the fact sheet adequately document the calculations used to develop both ELG and /or BPJ technology-based effluent limits?	X		
4. For all limits that are based on production or flow, does the record indicate that the calculations are based on a "reasonable measure of ACTUAL production: for the facility (not design)?			X
5. Does the permit contain "tiered" limits that reflect projected increases in production or flow?		X	
5.a. If yes, does the permit require the facility to notify the permitting authority when alternate levels of production or flow are attained?			X
6. Are technology-based permit limits expressed in appropriate units of measure (e.g., concentration, mass, SU)?	X		
7. Are all technology-based limits expressed in terms of both maximum daily, weekly average and/or monthly average limits?			X
8. Are any final limits less stringent than required by applicable effluent limitations guidelines or BPJ?		X	

II.D. Water Quality-Based Effluent Limits	Yes	No	N/A
1. Does the permit include appropriate limitations consistent with 40 CFR 122.44(d) covering State narrative and numeric criteria for water quality?	X		
2. Does the record indicate that any WQBELs were derived from a completed and EPA approved TMDL?		X	
3. Does the fact sheet provide effluent characteristics for each outfall?	X		
4. Does the fact sheet document that a "reasonable potential" evaluation was performed?	X		
4.a. If yes, does the fact sheet indicate that the "reasonable potential" evaluation was performed in accordance with the State's approved procedures?	X		
4.b. Does the fact sheet describe the basis for allowing or disallowing in-stream dilution or a mixing zone?	X		
4.c. Does the fact sheet present WLA calculation procedures for all pollutants that were found to have "reasonable potential"?	X		
4.d. Does the fact sheet indicate that the "reasonable potential" and WLA calculations accounted for contributions from upstream sources (e.g., do calculations include ambient/background concentrations where data are available)?			X
4.e. Does the permit contain numeric effluent limits for all pollutants for which "reasonable potential" was determined?	X		
5. Are all final WQBELs in the permit consistent with the justification and/or documentation provided in the fact sheet?	X		
6. For all final WQBELs, are BOTH long-term (e.g., average monthly) AND short-term (e.g., maximum daily, weekly average, instantaneous) effluent limits established?	X		
7. Are WQBELs expressed in the permit using appropriate units of measure (e.g., mass concentration)?	X		
8. Does the fact sheet indicate that an "antidegradation" review was performed in accordance with the State's approved antidegradation policy?	X		

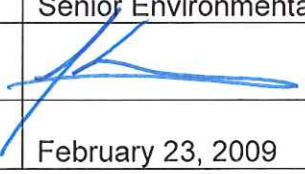
II.E. Monitoring and Reporting Requirements	Yes	No	N/A
1. Does the permit require at least annual monitoring for all limited parameters?	X		
1.a. If no, does the fact sheet indicate that the facility applied for and was granted a monitoring waiver, AND, does the permit specifically incorporate his waiver?			X
2. Does the permit identify the physical location where monitoring is to be performed for each outfall?	X		
3. Does the permit require testing for Whole Effluent Toxicity in accordance with the State's standard practices?			X

II.F. Special Conditions	Yes	No	N/A
1. Does the permit require development and implementation of a Best Management Practices (BMP) plan or site-specific BMPs?	X		
1.a. If yes, does the permit adequately incorporate and require compliance with the BMPs?	X		
2. If the permit contains compliance schedule(s), are they consistent with statutory and regulatory deadlines and requirements?			X
3. Are other special conditions (e.g., ambient sampling, mixing studies, TIE/TRE, BMPs, special studies) consistent with CWA and NPDES regulations?	X		

II.G. Standard Conditions	Yes	No	N/A
1. Does the **permit** contain all 40 CFR 122.41 standard conditions or the State equivalent (or more stringent) conditions?	X		
List of Standard Conditions – 40 CFR 122.41 • Duty to comply • Duty to reapply • Need to halt or reduce activity not a defense • Duty to mitigate • Proper O & M • Permit Actions • Property rights • Duty to provide information • Inspections and entry • Monitoring and reporting • Signatory requirement • Reporting requirements Planned change Anticipated non-compliance Transfers Monitoring Reports Compliance schedules 24-hour reporting Other non-compliance • Bypass • Upset			
2. Does the permit contain the additional standard condition (or the State equivalent or more stringent conditions) for existing non-municipal dischargers regarding pollutant notification levels [40 CFR 122.42(a)]?	X		

Part III. Signature Page

Based on a review of the data and other information submitted by the permit applicant, and the draft permit and other administrative records generated by the Department/Division and/or made available to the Department/Division, the information provided on this checklist is accurate and complete, to the best of my knowledge.

Name	Kirk A. Batsel
Title	Senior Environmental Engineer
Signature	
Date	February 23, 2009

ATTACHMENT 14

CHRONOLOGY SHEET

Chronology

Wednesday, May 27, 2009

Facility Name: American Electric Power - Leesville Hydro Plant *VA0087106*

Date	*Event*	*Comment*
3/13/2008	Miscellaneous:	FS revised by adding PCB requirements and resubmitted to Kip for review/approval.
6/5/2008	Reissuance letter mailed:	
7/28/2008	First Application Reminder Phone Call:	called and left message w/ Alan Wood, AEP. Mr John McGelski returned the call 7/29/08 and we discussed the application and reisunace. Mr. McGelski will be processing the application.
11/6/2008	Second Application Reminder Phone Call:	called and spoke w/ Alan Wood. Application on track, contact is Jonathan Magalski 614-716-2240.
11/24/2008	Application Administratively complete:	
11/24/2008	Application received at RO 1st time:	
11/24/2008	Public notice authorization received from owner:	w/ application
11/26/2008	App complete letter sent to permittee:	
11/26/2008	App sent to State Agencies (list in comment field):	
11/28/2008	Reissuance application due:	
12/19/2008	Application totally / technically complete:	w/ VDH coments
12/19/2008	Comments rec'vd from State Agencies on App:	VDH comments recv'd. Town of Altavista intake 10 miles downstream.
2/3/2009	Site visit:	K. Batsel
2/5/2009	Site inspection report:	K. Batsel
2/23/2009	Draft permit developed:	to Kip Foster for review (via email)
2/27/2009	Miscellaneous:	Per Kip, FS looks good, but will need to consider new PCB guidance for inclusion so FS approval on hold till after a TMDL/VPDES joint meeting is held (scheduled for March 12, 2009).
3/9/2009	Miscellaneous:	PCB guidiance signed and released for use
3/12/2009	Miscellaneous:	Joint TMDL/VPDES meeting held, PW instructed to include PCB requirements per GM 09-2001 in VPDES permit.
3/13/2009	Miscellaneous:	FS revised by adding PCB requirements and resubmitted to Kip for review/approval.
3/23/2009	Miscellaneous:	Kip send email w/ suggested changes to PCB requirements per last managers meeting.
3/26/2009	Miscellaneous:	Revised FS and DP sent to Kip for review.
3/31/2009	Draft reviewed:	Final oral review by Kip. Advised on changes to make (001&002) and to proceed w/ owner review.
3/31/2009	Miscellaneous:	met w/ Kip and discuss minor changes and PCB conditions.

Facility Name: American Electric Power - Leesville Hydro Plant *VA0087106*

Date	*Event*	*Comment*
4/2/2009	FS/SOB draft permit sent to owner:	electrionically, comments due back by April 17, 2009.
4/2/2009	FS/SOB draft permit sent to EPA/OWPS:	electronically
4/14/2009	First time comments received from owner on draft:	several minor comments and opposed to PCB requirements. Kip Foster called 4/21/09 and spoke w/ Jon Magalski concerning PCB requirements and explianed that they need to stay in VPDES permit.
4/21/2009	Owner concurrence of draft permit:	per conversation w/ K. Foster
4/23/2009	PN sent to CO for mailing list web site distrib:	to CO
4/23/2009	Public notice letter sent to newspaper:	to Lynchburg News Advance, electronically, faxed, and via US Mail.
4/24/2009	FS/SOB draft permit sent to owner 2nd time:	w/ minor changes requested
4/24/2009	Local gov't notification:	via US Mail
4/25/2009	Date of Public Notice:	1st print, PN 4/26/09-5/26/09
5/22/2009	Second time comments received from owner:	final comments recv'd fromm AEP, request 1yr extension on PCB schedule.
5/27/2009	FS/SOB draft permit sent to owner 3rd time:	per owner comments, PCB schedule revised to allow a 1yr extension (from schedule originally drafted) for submittal of PCB sampling protocol. Revised condition emailed to facility contact.
5/27/2009	Old expiration date:	
5/27/2009	Permit expires:	